SYLVANIA

SERVICE MANUAL

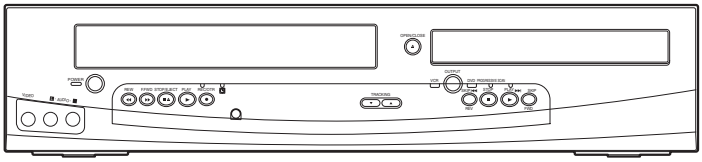
Main Section
- Specifications
- Preparation for Servicing
- Adjustment Procedures
- Schematic Diagrams
- CBA's
- Exploded Views
- Parts List

When servicing the deck mechanism, refer to MK14 Deck Mechanism Section.

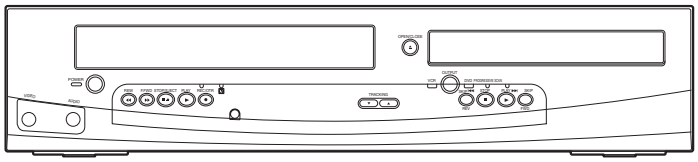
Deck Mechanism Part No.
DV225SL8: N2460FL
DV220SL8: N2440FL

DVD PLAYER & VIDEO CASSETTE RECORDER

DV225SL8



DV220SL8



VHS

IMPORTANT SAFETY NOTICE

Proper service and repair is important to the safe, reliable operation of all Funai Equipment. The service procedures recommended by Funai and described in this service manual are effective methods of performing service operations. Some of these service special tools should be used when and as recommended.

It is important to note that this service manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It also is important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. Funai could not possibly know, evaluate and advice the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, Funai has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by Funai must first use all precautions thoroughly so that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.

MAIN SECTION

DVD PLAYER & VIDEO CASSETTE RECORDER

DV225SL8/DV220SL8

Main Section
- **Specifications**
- **Preparation for Servicing**
- **Adjustment Procedures**
- **Schematic Diagrams**
- **CBA's**
- **Exploded Views**
- **Parts List**

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SPECIFICATIONS

< VCR Section >

Description	Unit	Minimum	Nominal	Maximum	Remark
1. Video					
1-1. Video Output (PB)	Vp-p	0.8	1.0	1.2	SP Mode
1-2. Video Output (R/P)	Vp-p	0.8	1.0	1.2	
1-3. Video S/N Y (R/P)	dB	40	45		SP Mode, W/O Burst
1-4. Video Color S/N AM (R/P)	dB	35	41		SP Mode
1-5. Video Color S/N PM (R/P)	dB	33	36		SP Mode
1-6. Resolution (PB)	Line	230	245		SP Mode
2. Servo					
2-1. Jitter Low	μsec		0.07	0.12	SP Mode
2-2. Wow & Flutter	%		0.3	0.5	SP Mode
3. Normal Audio					
3-1. Output (PB)	dBV	-9	-6	-3	SP Mode
3-2. Output (R/P)	dBV	-9	-6	-1.5	SP Mode
3-3. S/N (R/P)	dB	36	41		SP Mode
3-4. Distortion (R/P)	%		1.0	4.0	SP Mode
3-5. Freq. resp (R/P) at 200 Hz	dB	-11	-4		SP Mode
(-20 dB ref. 1 kHz) at 8 kHz	dB	-14	-4		SP Mode
4. Hi-Fi Audio [DV225SL8]					
5-1. Output	dBV	-12	-8	-4	SP Mode
5-2. Dynamic Range	dB	70	80		SP Mode
5-3. Freq. resp (6 dB B.W)	Hz		20 ~ 20 k		SP Mode

Note: Nominal specs represent the design specs. All units should be able to approximate these – some will exceed and some may drop slightly below these specs. Limit specs represent the absolute worst condition that still might be considered acceptable; In no case should a unit fail to meet limit specs.

< DVD Section >

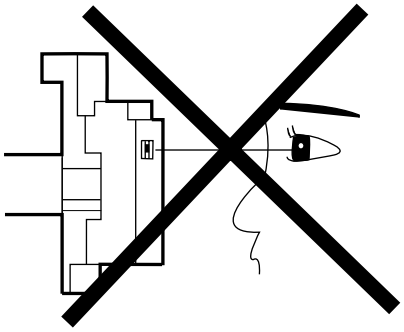
Item	Conditions	Unit	Nominal	Limit
1. Video Output	75 Ω load	Vpp	1.0	± 0.1
2. Coaxial Digital Out	75 Ω load	mVpp	500	± 50
3. Audio (PCM)				
3-1. Output Level	1 kHz, 0 dB, 47k Ω load	Vrms	2.0	
3-2. S/N	47k Ω load	dB	100	
3-3. Freq. Response				
DVD	fs = 48 kHz ± 0.5 dB, 47k Ω load	Hz	20 ~ 22 k	
CD	fs = 44.1 kHz ± 0.5 dB, 47k Ω load	Hz	20 ~ 20 k	
3-4. THD+N				
DVD	1 kHz, 0 dB, 47k Ω load	%	0.01	
CD	1 kHz, 0 dB, 47k Ω load	%	0.01	

Notes:

1. All Items are measured without pre-emphasis unless otherwise specified.
2. Power supply: AC 120 V, 60 Hz
3. Ambient Temperature: +25 °C

LASER BEAM SAFETY PRECAUTIONS

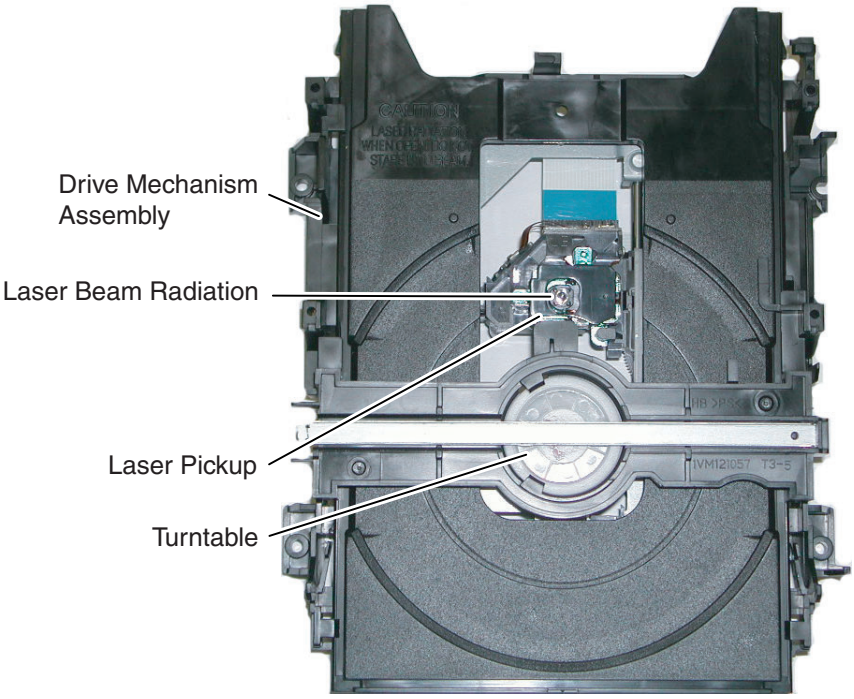
This DVD player uses a pickup that emits a laser beam.



Do not look directly at the laser beam coming from the pickup or allow it to strike against your skin.

The laser beam is emitted from the location shown in the figure. When checking the laser diode, be sure to keep your eyes at least 30 cm away from the pickup lens when the diode is turned on. Do not look directly at the laser beam.

CAUTION: Use of controls and adjustments, or doing procedures other than those specified herein, may result in hazardous radiation exposure.



CAUTION
LASER RADIATION
WHEN OPEN. DO NOT
STARE INTO BEAM.

Location: Top of DVD mechanism.

IMPORTANT SAFETY PRECAUTIONS

Product Safety Notice

Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc. Parts that have special safety characteristics are identified by a ⚠ on schematics and in parts lists. Use of a substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire, and/or other hazards. The Product's Safety is under review continuously and new instructions are issued whenever appropriate. Prior to shipment from the factory, our products are carefully inspected to confirm with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

Precautions during Servicing

A. Parts identified by the ⚠ symbol are critical for safety. Replace only with part number specified.

B. In addition to safety, other parts and assemblies are specified for conformance with regulations applying to spurious radiation. These must also be replaced only with specified replacements. Examples: RF converters, RF cables, noise blocking capacitors, and noise blocking filters, etc.

C. Use specified internal wiring. Note especially:
1) Wires covered with PVC tubing
2) Double insulated wires
3) High voltage leads

D. Use specified insulating materials for hazardous live parts. Note especially:
1) Insulation tape
2) PVC tubing
3) Spacers
4) Insulators for transistors

E. When replacing AC primary side components (transformers, power cord, etc.), wrap ends of wires securely about the terminals before soldering.

F. Observe that the wires do not contact heat producing parts (heat sinks, oxide metal film resistors, fusible resistors, etc.).

G. Check that replaced wires do not contact sharp edges or pointed parts.

H. When a power cord has been replaced, check that 5 - 6 kg of force in any direction will not loosen it.

I. Also check areas surrounding repaired locations.

J. Be careful that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

K. Crimp type wire connector
The power transformer uses crimp type connectors which connect the power cord and the primary side of the transformer. When replacing the transformer, follow these steps carefully and precisely to prevent shock hazards.
Replacement procedure
1) Remove the old connector by cutting the wires at a point close to the connector.
Important: Do not re-use a connector. (Discard it.)
2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.
3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.
4) Use a crimping tool to crimp the metal sleeve at its center. Be sure to crimp fully to the complete closure of the tool.

L. When connecting or disconnecting the internal connectors, first, disconnect the AC plug from the AC outlet.

Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts, and wires have been returned to their original positions. Afterwards, do the following tests and confirm the specified values to verify compliance with safety standards.

1. Clearance Distance

When replacing primary circuit components, confirm specified clearance distance (d) and (d') between soldered terminals, and between terminals and surrounding metallic parts. (See Fig. 1)

Table 1: Ratings for selected area

AC Line Voltage	Clearance Distance (d), (d')
120 V	≥ 3.2 mm (0.126 inches)

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

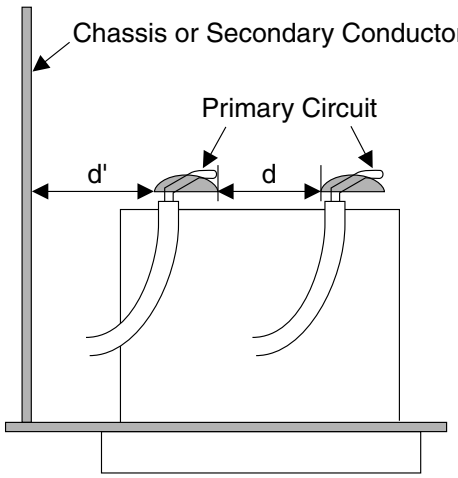


Fig. 1

2. Leakage Current Test

Confirm the specified (or lower) leakage current between B (earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.) is lower than or equal to the specified value in the table below.

Measuring Method (Power ON):

Insert load Z between B (earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across the terminals of load Z. See Fig. 2 and the following table.

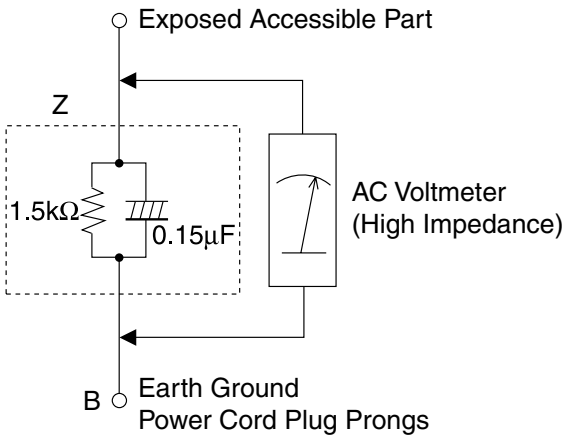


Fig. 2

Table 2: Leakage current ratings for selected areas

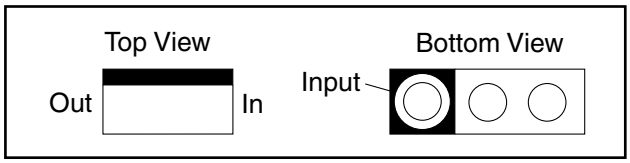
AC Line Voltage	Load Z	Leakage Current (i)	Earth Ground (B) to:
120 V	0.15 μF CAP. & 1.5 kΩ RES. Connected in parallel	i ≤ 0.5 mA Peak	Exposed accessible parts

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

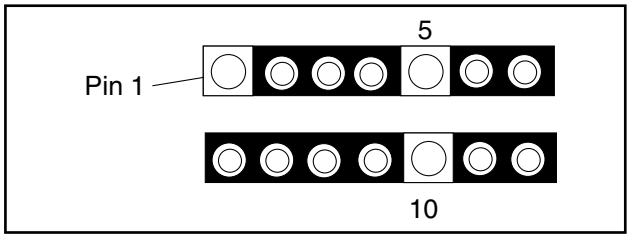
STANDARD NOTES FOR SERVICING

Circuit Board Indications

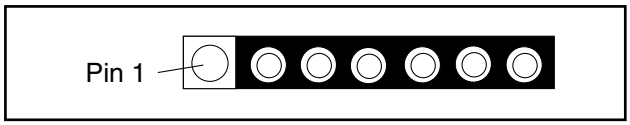
1. The output pin of the 3 pin Regulator ICs is indicated as shown.



2. For other ICs, pin 1 and every fifth pin are indicated as shown.

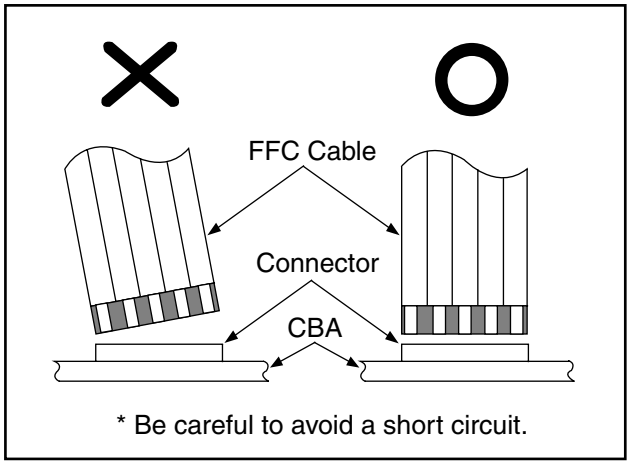


3. The 1st pin of every male connector is indicated as shown.



Instructions for Connectors

1. When you connect or disconnect the FFC (Flexible Foil Connector) cable, be sure to first disconnect the AC cord.
2. FFC (Flexible Foil Connector) cable should be inserted parallel into the connector, not at an angle.



Pb (Lead) Free Solder

When soldering, be sure to use the Pb free solder.

How to Remove / Install Flat Pack-IC

1. Removal

With Hot-Air Flat Pack-IC Desoldering Machine:

1. Prepare the hot-air flat pack-IC desoldering machine, then apply hot air to the Flat Pack-IC (about 5 to 6 seconds). (Fig. S-1-1)

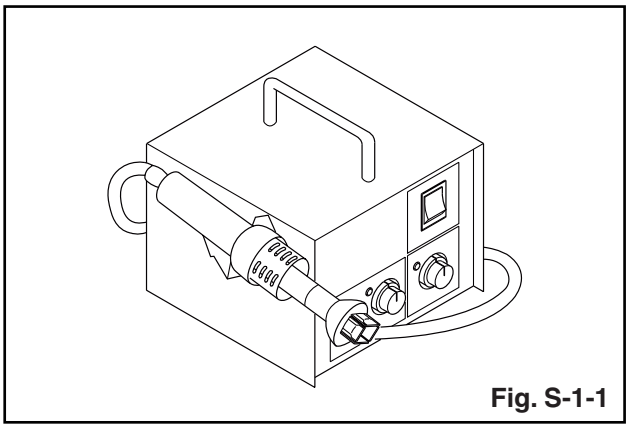


Fig. S-1-1

2. Remove the flat pack-IC with tweezers while applying the hot air.
3. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

CAUTION:

1. The Flat Pack-IC shape may differ by models. Use an appropriate hot-air flat pack-IC desoldering machine, whose shape matches that of the Flat Pack-IC.
2. Do not supply hot air to the chip parts around the flat pack-IC for over 6 seconds because damage to the chip parts may occur. Put masking tape around the flat pack-IC to protect other parts from damage. (Fig. S-1-2)

3. The flat pack-IC on the CBA is affixed with glue, so be careful not to break or damage the foil of each pin or the solder lands under the IC when removing it.

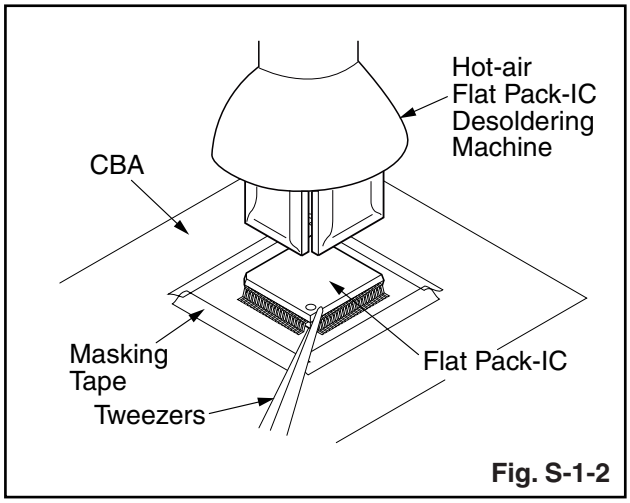


Fig. S-1-2

With Soldering Iron:

1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)

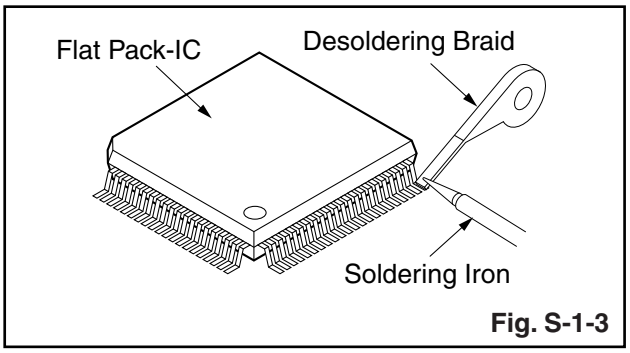


Fig. S-1-3

2. Lift each lead of the flat pack-IC upward one by one, using a sharp pin or wire to which solder will not adhere (iron wire). When heating the pins, use a fine tip soldering iron or a hot air desoldering machine. (Fig. S-1-4)

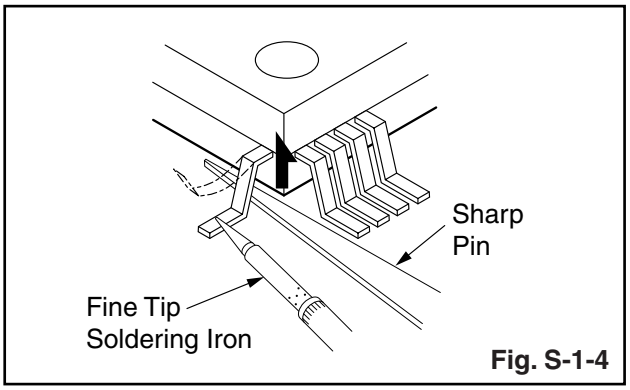


Fig. S-1-4

3. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

With Iron Wire:

1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)
2. Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.
3. While heating the pins using a fine tip soldering iron or hot air blower, pull up the wire as the solder melts so as to lift the IC leads from the CBA contact pads as shown in Fig. S-1-5.
4. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
5. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

Note: When using a soldering iron, care must be taken to ensure that the flat pack-IC is not being held by glue. When the flat pack-IC is removed from the CBA, handle it gently because it may be damaged if force is applied.

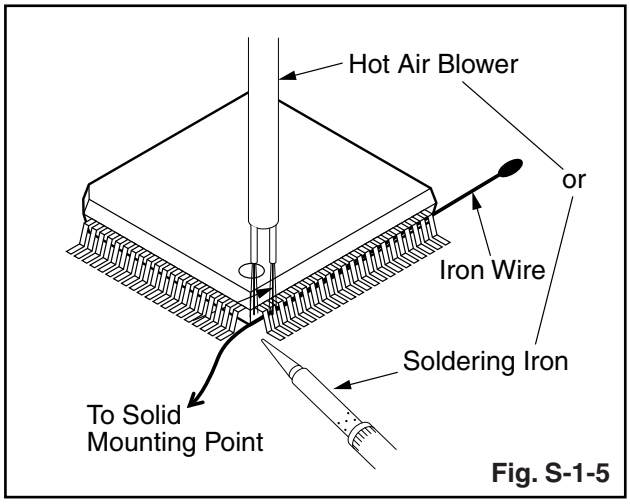


Fig. S-1-5

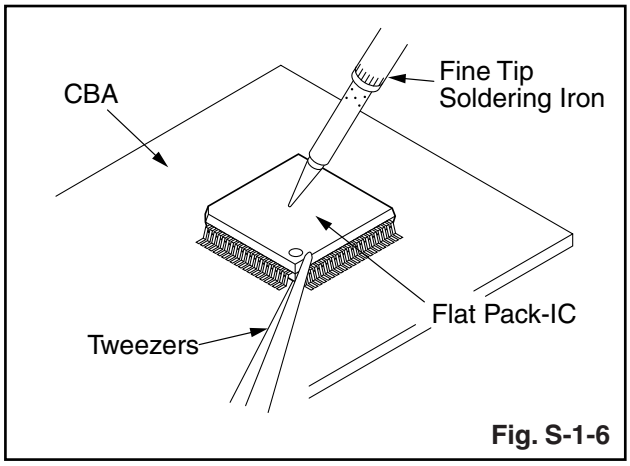


Fig. S-1-6

2. Installation

1. Using desoldering braid, remove the solder from the foil of each pin of the flat pack-IC on the CBA so you can install a replacement flat pack-IC more easily.
2. The "●" mark on the flat pack-IC indicates pin 1. (See Fig. S-1-7.) Be sure this mark matches the 1 on the PCB when positioning for installation. Then presolder the four corners of the flat pack-IC. (See Fig. S-1-8.)
3. Solder all pins of the flat pack-IC. Be sure that none of the pins have solder bridges.

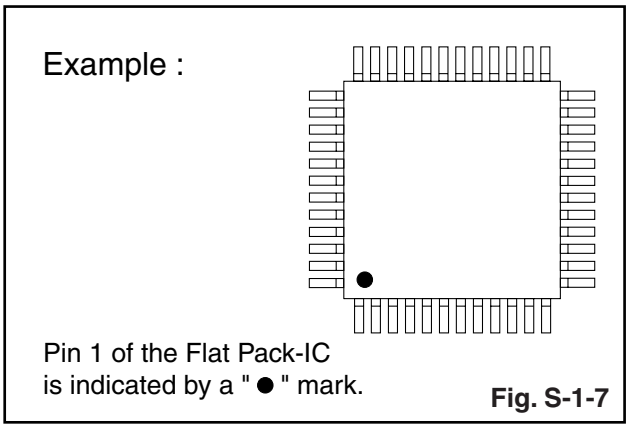


Fig. S-1-7

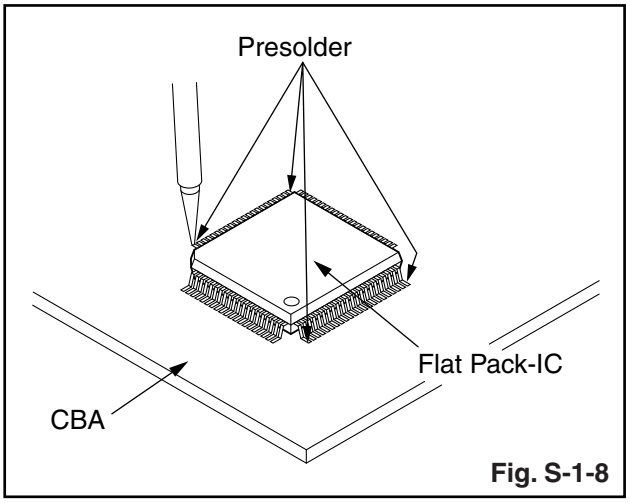


Fig. S-1-8

Instructions for Handling Semi-conductors

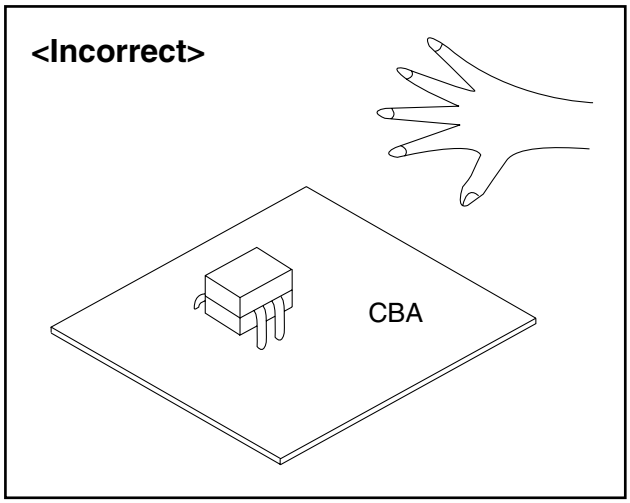
Electrostatic breakdown of the semi-conductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

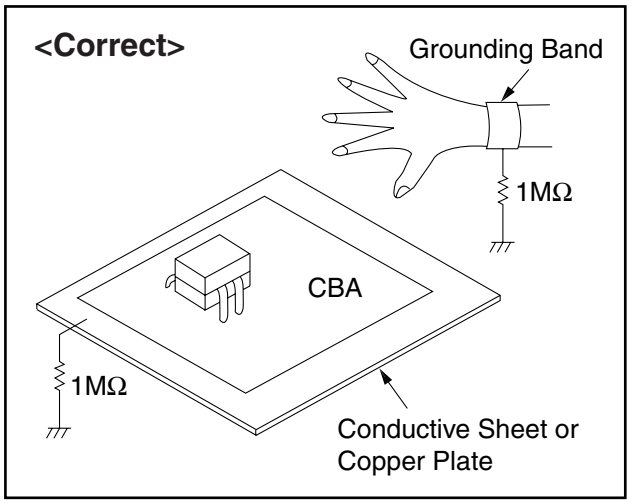
1. Ground for Human Body

Be sure to wear a grounding band (1 MΩ) that is properly grounded to remove any static electricity that may be charged on the body.

2. Ground for Workbench

Be sure to place a conductive sheet or copper plate with proper grounding (1 MΩ) on the workbench or other surface, where the semi-conductors are to be placed. Because the static electricity charge on clothing will not escape through the body grounding band, be careful to avoid contacting semi-conductors with your clothing.





PREPARATION FOR SERVICING

How to Enter the Service Mode

About Optical Sensors

Caution:

An optical sensor system is used for the Tape Start and End Sensors on this equipment. Carefully read and follow the instructions below. Otherwise the unit may operate erratically.

What to do for preparation

Insert a tape into the Deck Mechanism Assembly and press the [PLAY] button. The tape will be loaded into the Deck Mechanism Assembly. Make sure the power is on, connect S-INH (hollow) to GND. This will stop the function of Tape Start Sensor, Tape End Sensor and Reel Sensors. (If these TPs are connected before plugging in the unit, the function of the sensors will stay valid.) See Fig. 1.

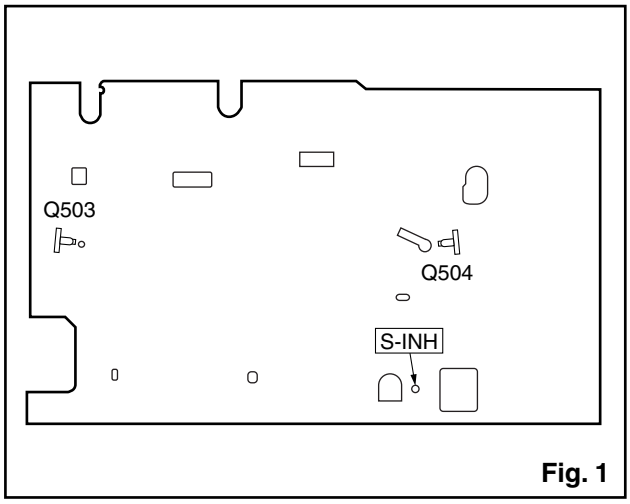


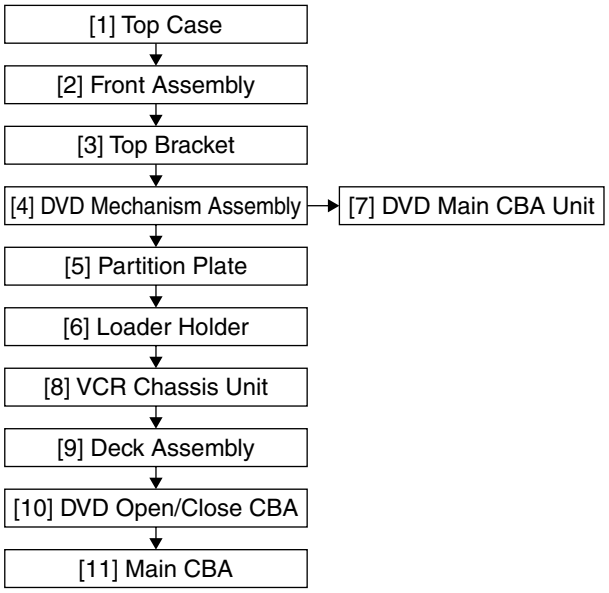
Fig. 1

Note: Because the Tape End Sensors are inactive, do not run a tape all the way to the start or the end of the tape to avoid tape damage.

CABINET DISASSEMBLY INSTRUCTIONS

1. Disassembly Flowchart

This flowchart indicates the disassembly steps to gain access to item(s) to be serviced. When reassembling, follow the steps in reverse order. Bend, route, and dress the cables as they were originally.



2. Disassembly Method

ID/ Loc. No.	Part	Removal		
		Fig. No.	Remove/*Unhook/ Unlock/Release/ Unplug/Desolder	Note
[1]	Top Case	D1	4(S-1)	---
[2]	Front Assembly	D2	*3(L-1), *3(L-2)	1
[3]	Top Bracket	D2	3(S-2)	---
[4]	DVD Mechanism Assembly	D3	4(S-3), *CN401, *CN601	---
[5]	Partition Plate	D3	2(S-4)	---
[6]	Loader Holder	D3	2(S-5)	---
[7]	DVD Main CBA Unit	D4	2(S-6), *CN201, *CN301	2, 3
[8]	VCR Chassis Unit	D5	5(S-7), (S-8)	---
[9]	Deck Assembly	D6	*Desolder, (S-9), (S-10), (S-11)	4, 5
[10]	DVD Open/ Close CBA	D6	*Desolder	---
[11]	Main CBA	D6	----------	---
		↓ (3)	↓ (4)	↓ (5)

Note:

(1) Identification (location) No. of parts in the figures

(2) Name of the part

(3) Figure Number for reference

(4) Identification of parts to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.
P = Spring, L = Locking Tab, S = Screw,
CN = Connector
* = Unhook, Unlock, Release, Unplug, or Desolder
e.g. 2(S-2) = two Screws (S-2),
2(L-2) = two Locking Tabs (L-2)

(5) Refer to “Reference Notes.”

Reference Notes

1. **CAUTION 1:** Locking Tabs (L-1) and (L-2) are fragile. Be careful not to break them.
   1) Release three Locking Tabs (L-1).
   2) Release three Locking Tabs (L-2), then remove the Front Assembly.
2. **CAUTION 2:** Electrostatic breakdown of the laser diode in the optical system block may occur as a potential difference caused by electrostatic charge accumulated on cloth, human body etc, during unpacking or repair work.
   To avoid damage of pickup follow next procedures.
   1) Disconnect Connector (CN301). Remove two Screws (S-6) and lift the DVD Main CBA Unit. (Fig. D4)
   2) Short the three short lands of FPC cable with solder before removing the FFC cable (CN201) from it. If you disconnect the FFC cable (CN201), the laser diode of pickup will be destroyed. (Fig. D4)
3. **CAUTION 3:** When reassembling, confirm the FFC cable (CN201) is connected completely. Then remove the solder from the three short lands of FPC cable. (Fig. D4)
4. When reassembling, solder wire jumpers as shown in Fig. D6.

5. Before installing the Deck Assembly, be sure to place the pin of LD-SW on Main CBA as shown in Fig. D6. Then, install the Deck Assembly while aligning the hole of Cam Gear with the pin of LD-SW, the shaft of Cam Gear with the hole of LD-SW as shown in Fig. D6.

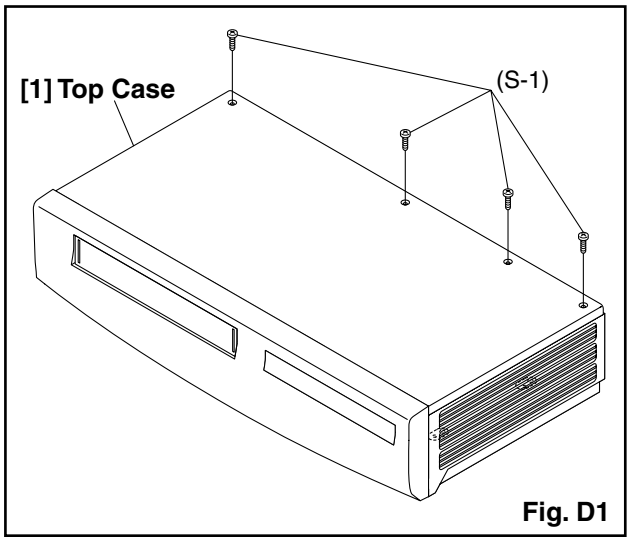


Fig. D1

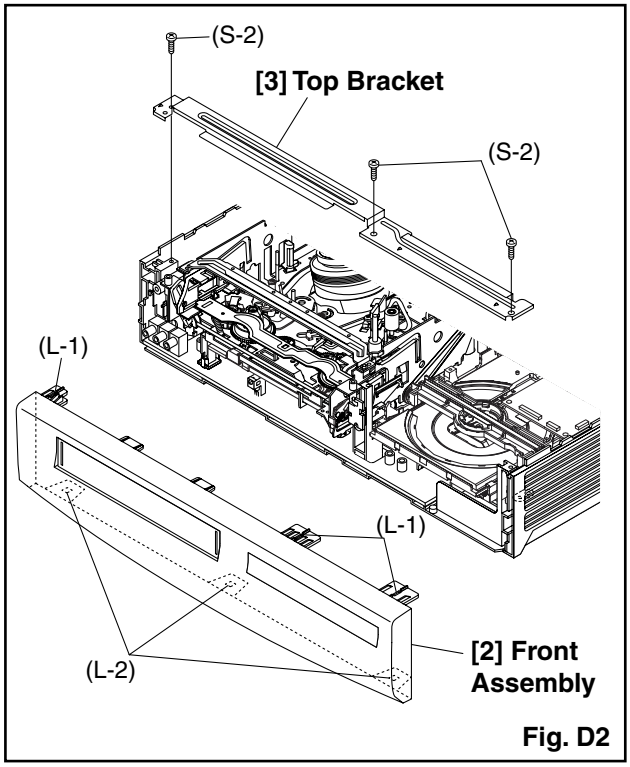


Fig. D2

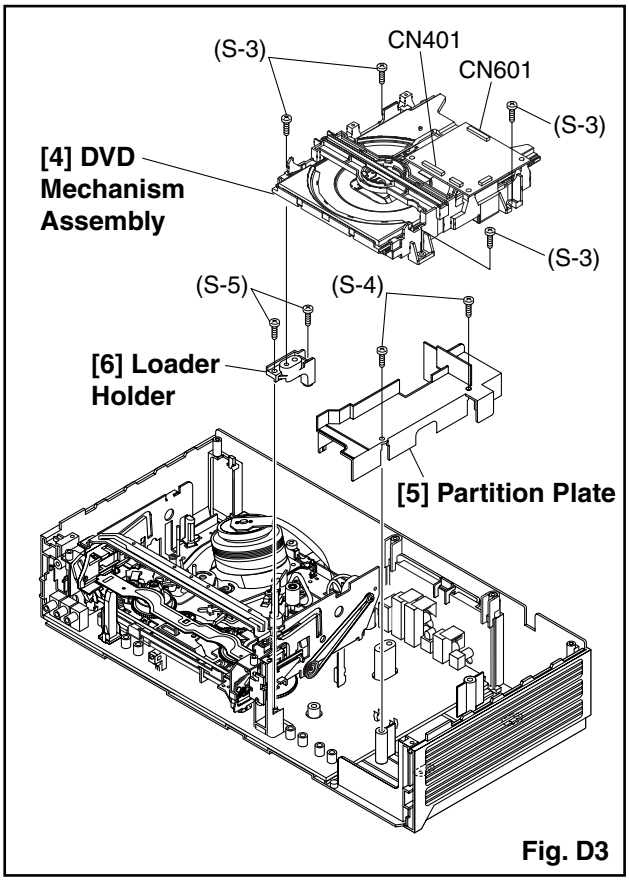


Fig. D3

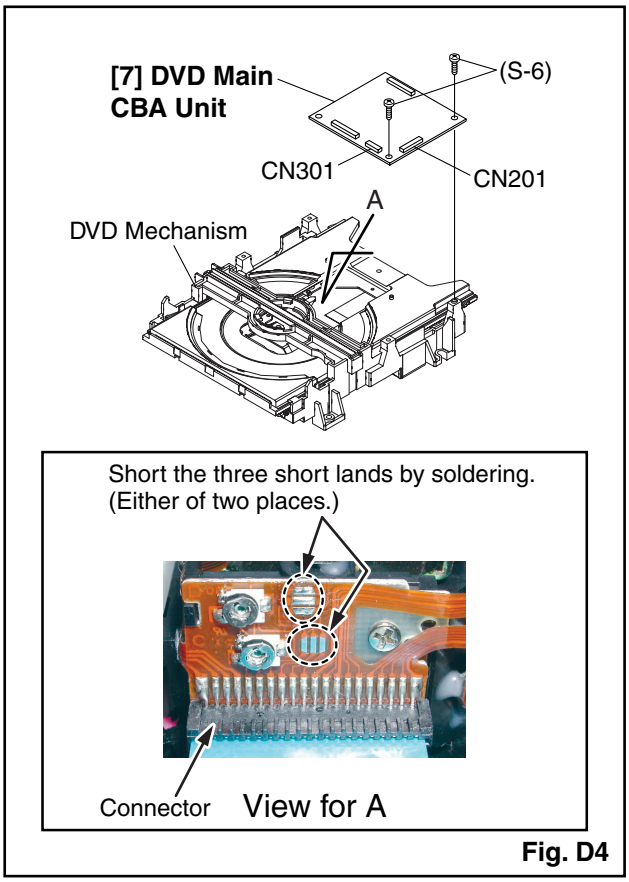


Fig. D4

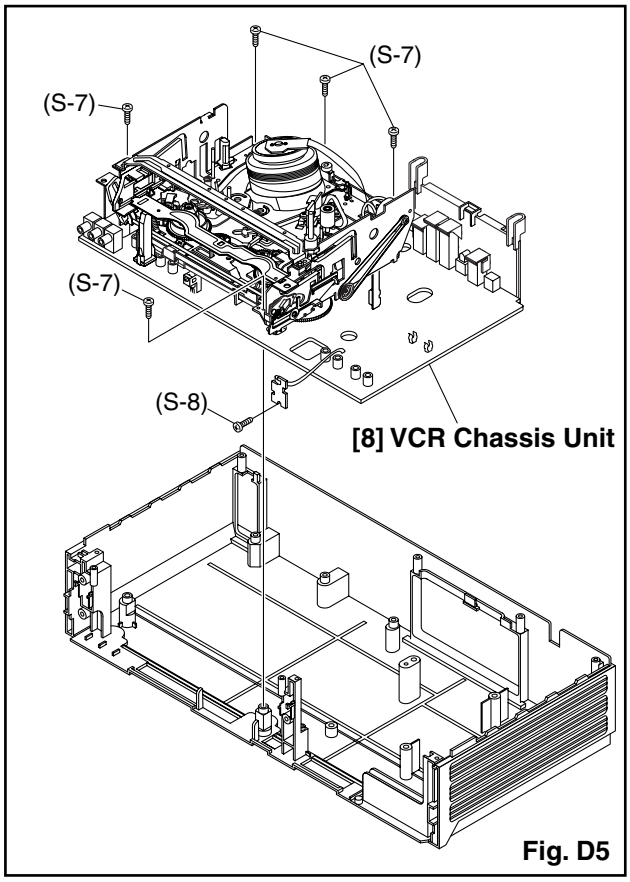
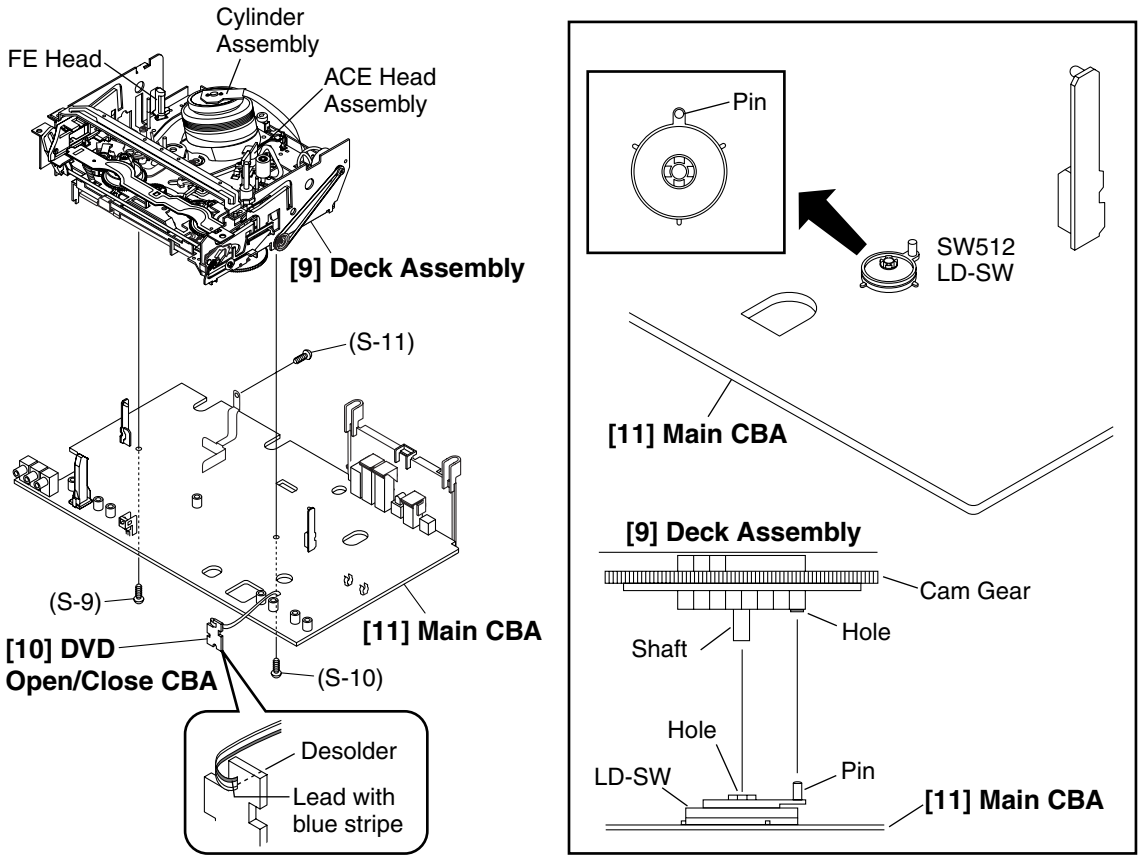
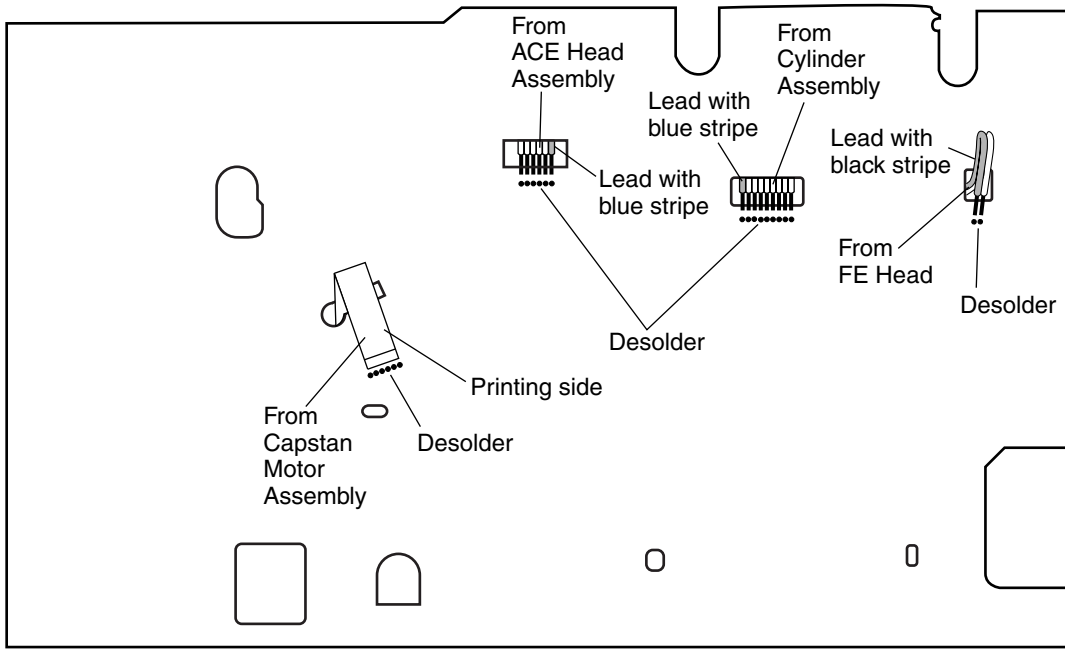


Fig. D5





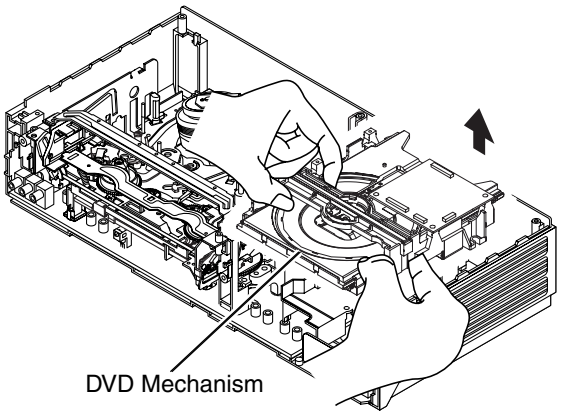
BOTTOM VIEW

Lead connections of Deck Assembly and Main CBA

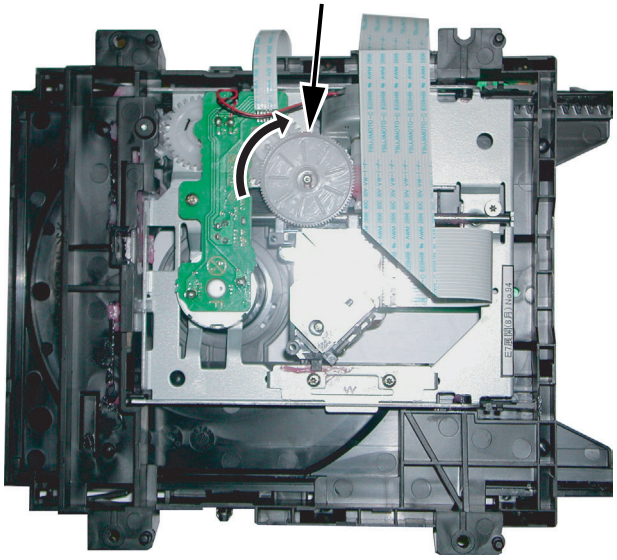
Fig. D6

3. HOW TO EJECT MANUALLY

1. Remove the Top Case, Front Assembly and Top Bracket.
2. Remove four Screws (S-3) in Fig. D3. Do not disconnect connectors.
3. While lifting up the DVD Mechanism, rotate the roulette in the direction of the arrow as shown below.
4. Pull the tray slowly manually.



The gear is turned to the direction of the arrow.



The Back of DVD Mechanism Assembly

ELECTRICAL ADJUSTMENT INSTRUCTIONS

General Note: "CBA" is abbreviation for "Circuit Board Assembly."

NOTE:

1. Electrical adjustments are required after replacing circuit components and certain mechanical parts. It is important to do these adjustments only after all repairs and replacements have been completed. Also, do not attempt these adjustments unless the proper equipment is available.
2. To perform these alignment / confirmation procedures, make sure that the tracking control is set in the center position: Press either [TRACKING ▼] or [TRACKING ▲] button on the front panel first, then the [PLAY] button on the front panel.

Test Equipment Required

1. Oscilloscope: Dual-trace with 10:1 probe,
   V-Range: 0.001~50 V/Div.,
   F-Range: DC~AC-20 MHz
2. Alignment Tape (FL8A)

Head Switching Position Adjustment

Purpose: To determine the Head Switching position during playback.

Symptom of Misadjustment: May cause Head Switching noise or vertical jitter in the picture.

Test point	Adj. Point	Mode	Input
TP751(V-OUT) TP302(RF-SW) GND	VR501 (Switching Point)	PLAY (SP)	-----
Tape	**Measurement Equipment**	**Spec.**	
FL8A	Oscilloscope	6.5H ± 1H (412.7µs±63.5µs)	

Connections of Measurement Equipment

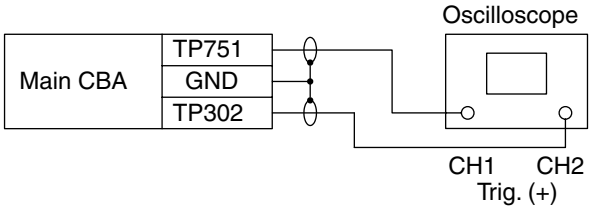
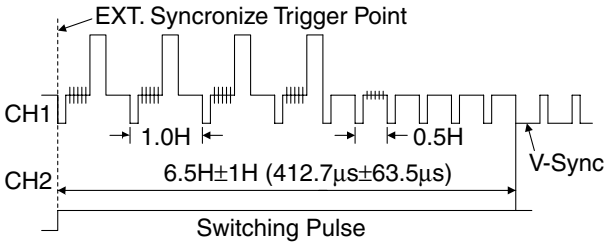


Figure 1



Note: TP751(V-OUT), TP302(RF-SW), VR501(Switching Point) --- Main CBA

Reference Notes:

Playback the Alignment tape and adjust VR501 so that the V-sync front edge of the CH1 video output waveform is at the 6.5H ± 1H (412.7 µs ± 63.5 µs) delayed position from the rising edge of the CH2 head switching pulse waveform.

HOW TO INITIALIZE THE DVD PLAYER & VCR

To put the program back at the factory-default, initialize the DVD player & VCR as the following procedure.

< DVD Section >

1. Press [DVD], [1], [2], [3], [4], and [DISPLAY] buttons on the remote control unit in that order.
   Fig. a appears on the screen.

"*******" differs depending on the models.

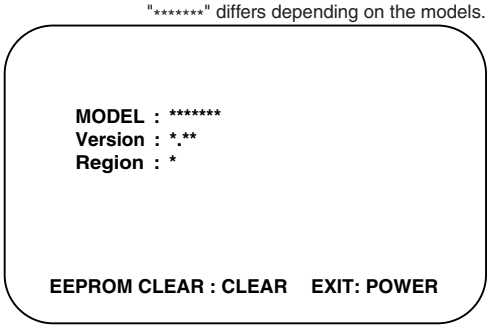


Fig. a

2. Press [CLEAR/C.RESET] button on the remote control unit.
   Fig. b appears on the screen.

"*******" differs depending on the models.

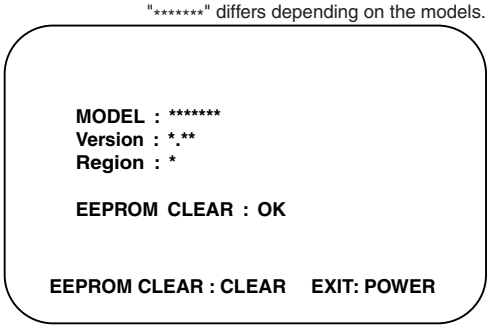


Fig. b

   When “OK” appears on the screen, the factory default will be set.

3. To exit this mode, press [POWER] button.

FIRMWARE RENEWAL MODE

1. Turn the power on and remove the disc on the tray.
2. To put the DVD player into version up mode, press [DVD], [9], [8], [7], [6], and [SEARCH MODE] buttons on the remote control unit in that order.
   The tray will open automatically.
   Fig. a appears on the screen.

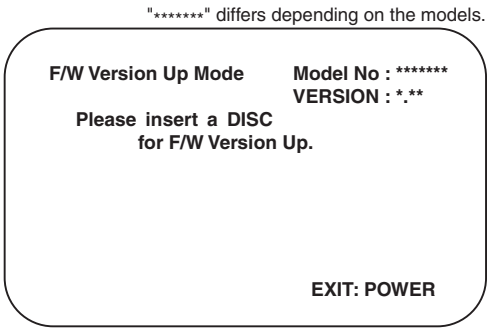


Fig. a Version Up Mode Screen

   The DVD player can also enter the version up mode with the tray open. In this case, Fig. a will be shown on the screen while the tray is open.

3. Load the disc for version up.
4. The DVD player enters the F/W version up mode automatically. Fig. c appears on the screen. If you enter the F/W for different models, “Disc Error” will appear on the screen, then the tray will open automatically.

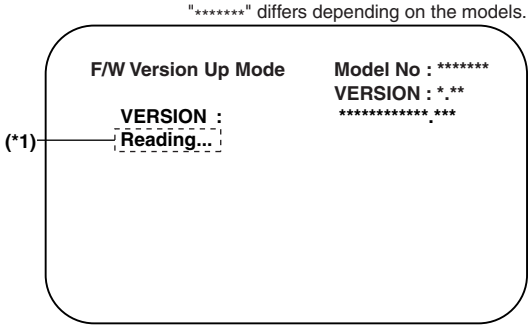


Fig. c Programming Mode Screen

   The appearance shown in (*1) of Fig. c is described as follows:

No.	Appearance	State
1	Reading...	Sending files into the memory
2	Erasing...	Erasing previous version data
3	Programming...	Writing new version data

5. After programming is finished, the tray opens automatically. Fig. e appears on the screen.

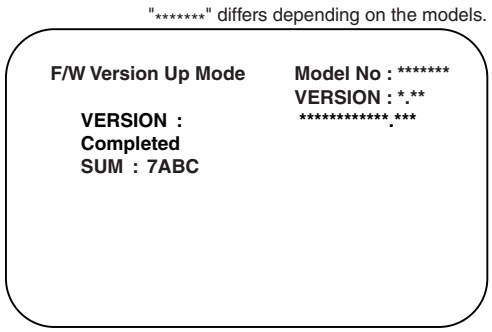


Fig. e Completed Program Mode Screen

   At this time, no button is available.

6. Remove the disc on the tray.
7. Unplug the AC cord from the AC outlet. Then plug it again.
8. Turn the power on by pressing the [POWER] button and the tray will close.
9. Press [1], [2], [3], [4], and [DISPLAY] buttons on the remote control unit in that order.
   Fig. g appears on the screen.

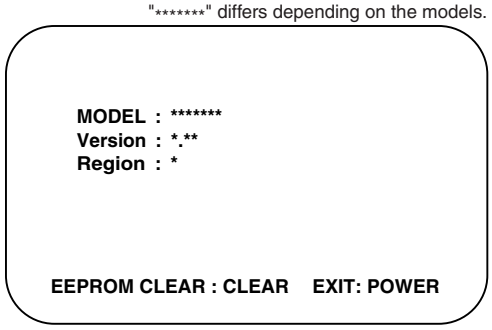


Fig. g

10. Press [CLEAR/C.RESET] button on the remote control unit.
    Fig. h appears on the screen.

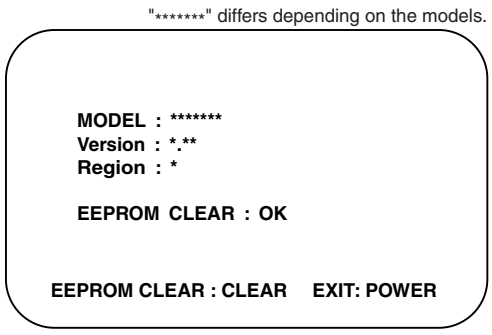


Fig. h

    When “OK” appears on the screen, the factory default will be set. Then the firmware renewal mode is complete.

11. To exit this mode, press [POWER] button.

FUNCTION INDICATOR SYMBOLS

Note: If a mechanical malfunction occurs, the power is turned off. When the power comes on again after that by pressing [POWER] button, an error message is displayed on the TV screen for 5 seconds.

Cause	Indicator Active
When reel or capstan mechanism is not functioning correctly	"EJECT ⏏ R" is displayed on a TV screen. (Refer to Fig. 1.)
When tape loading mechanism is not functioning correctly	"EJECT ⏏ T" is displayed on a TV screen. (Refer to Fig. 2.)
When cassette loading mechanism is not functioning correctly	"EJECT ⏏ C" is displayed on a TV screen. (Refer to Fig. 3.)
When the drum is not working properly	"EJECT ⏏ D" is displayed on a TV screen. (Refer to Fig. 4.)
P-ON+5V Power safety detection	"EJECT ⏏ P" is displayed on a TV screen. (Refer to Fig. 5.)

TV screen

When reel or capstan mechanism is not functioning correctly

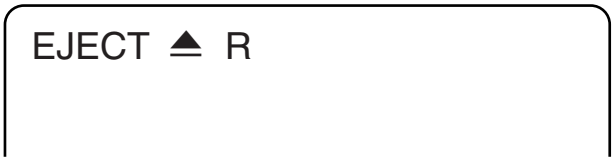


Fig. 1

When tape loading mechanism is not functioning correctly

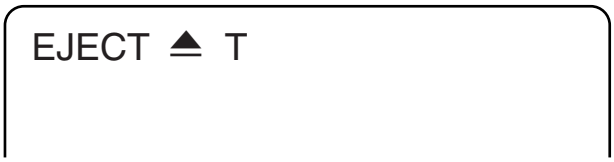


Fig. 2

When cassette loading mechanism is not functioning correctly

Fig. 3

When the drum is not working properly

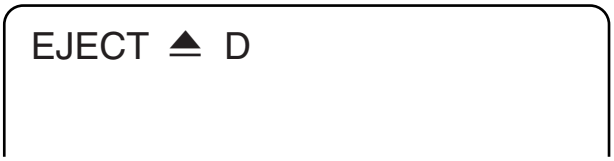


Fig. 4

P-ON+5V Power safety detection

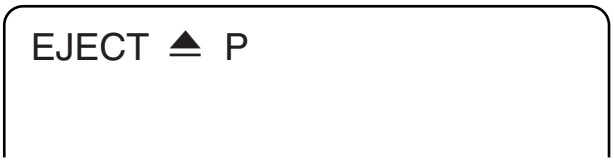
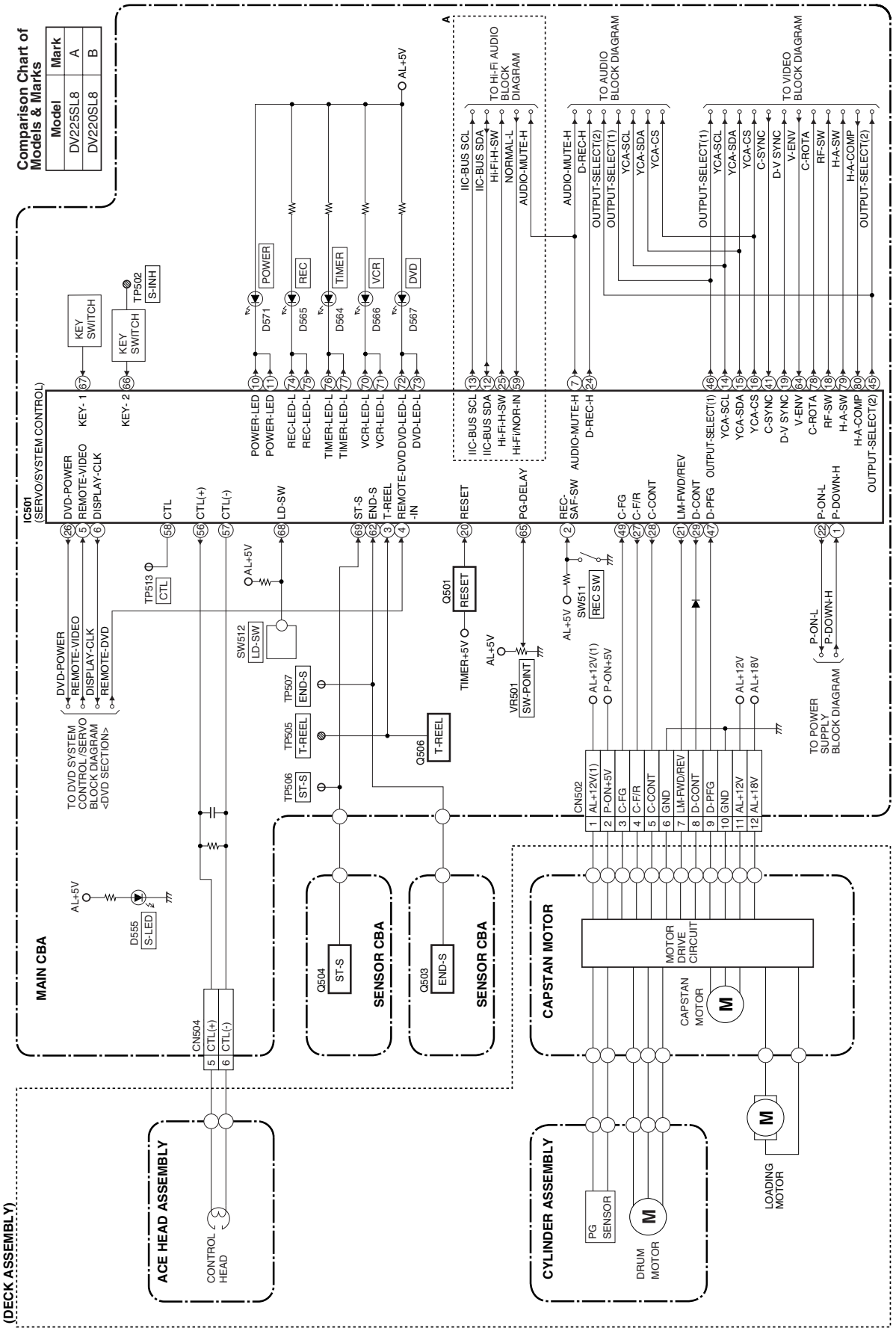


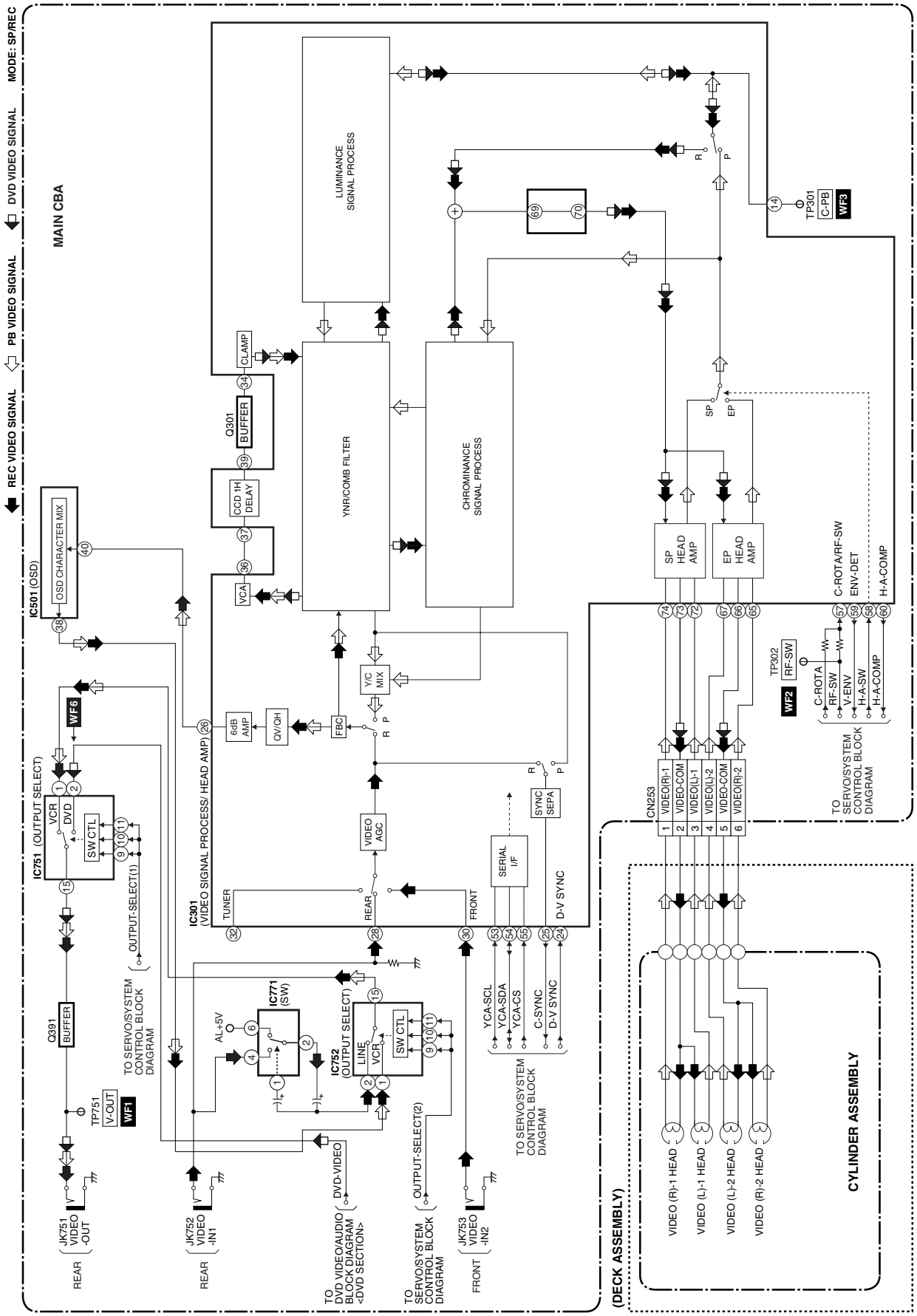
Fig. 5

BLOCK DIAGRAMS <VCR SECTION>

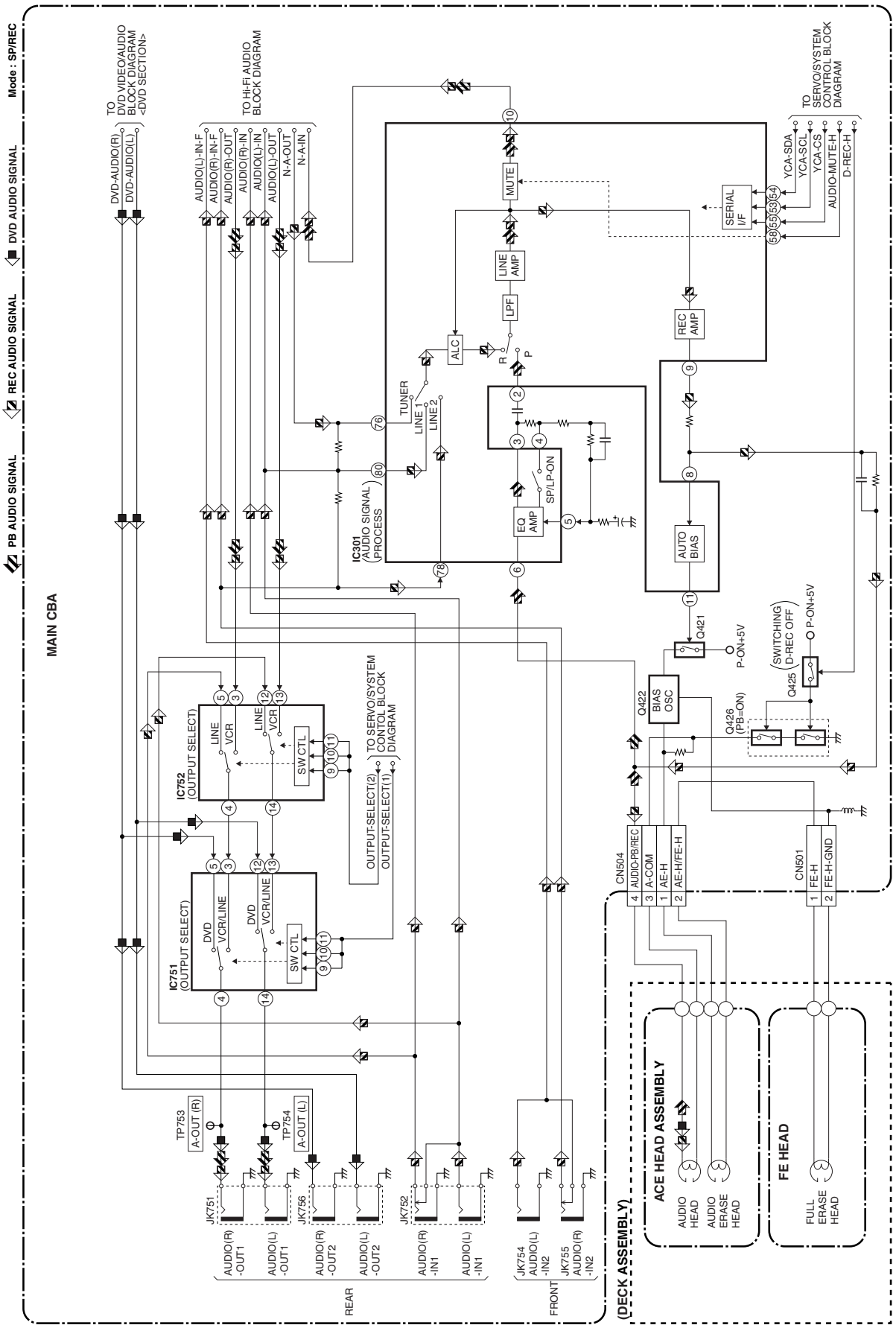
Servo / System Control Block Diagram



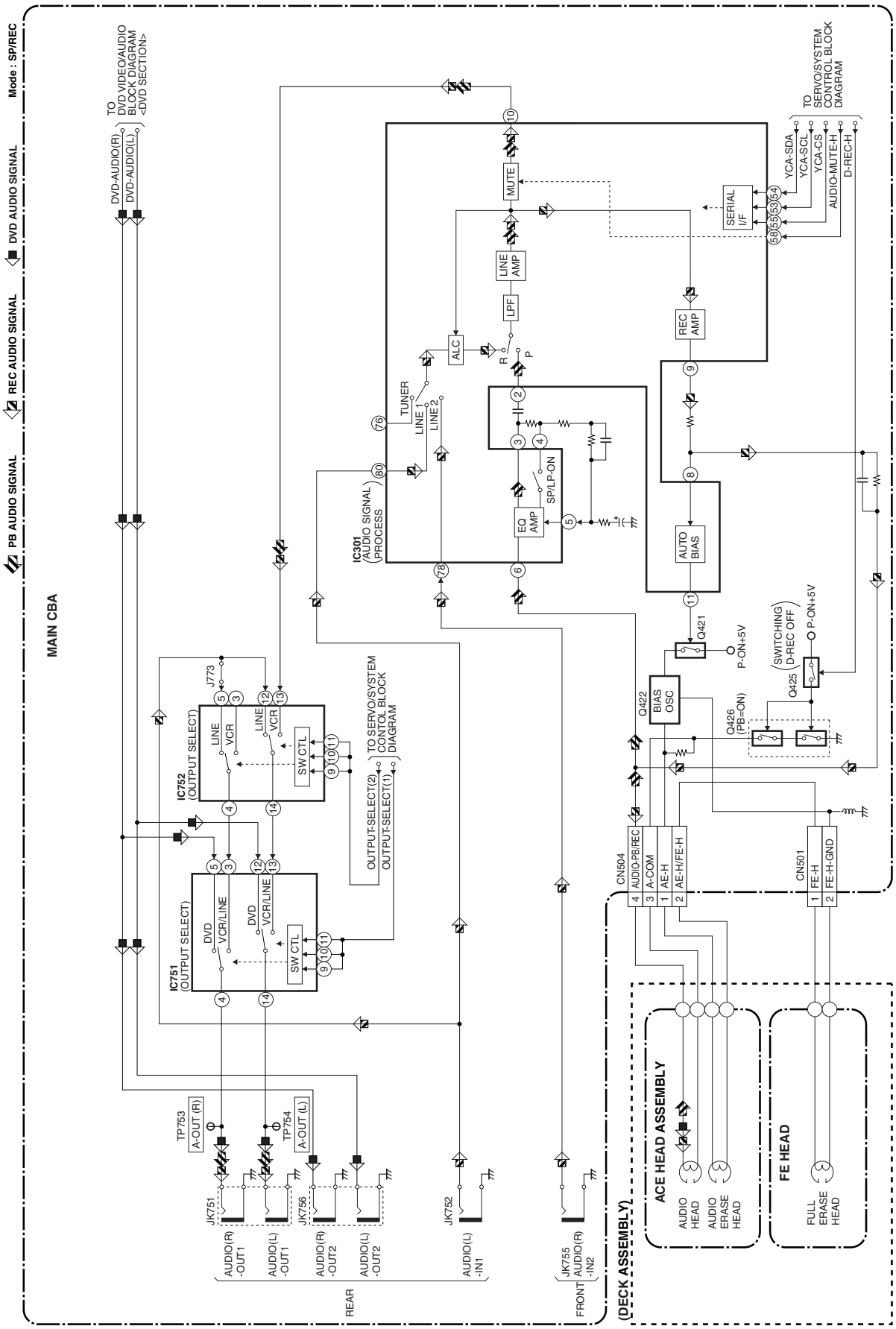
Video Block Diagram



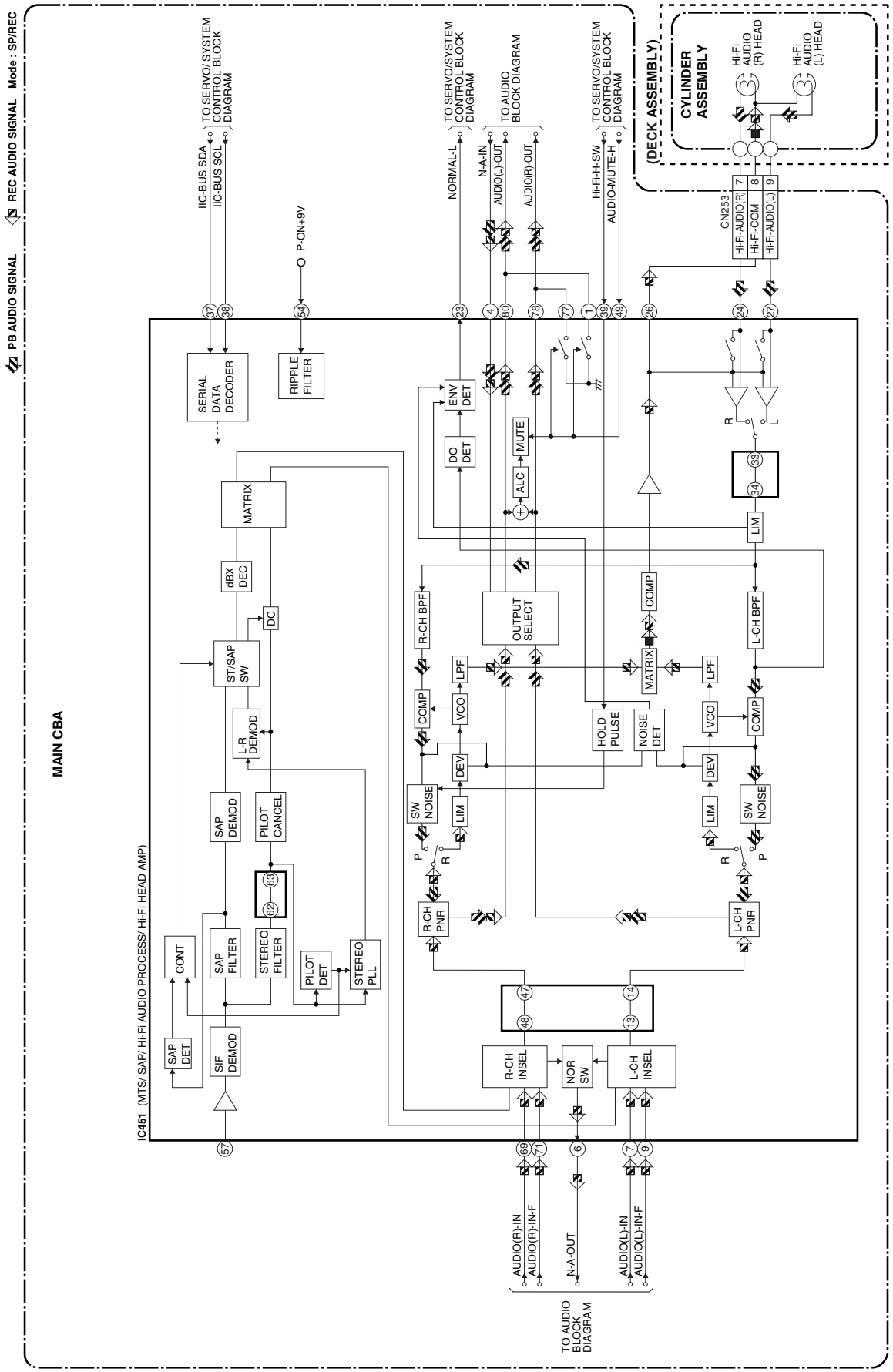
Audio Block Diagram (DV225SL8)



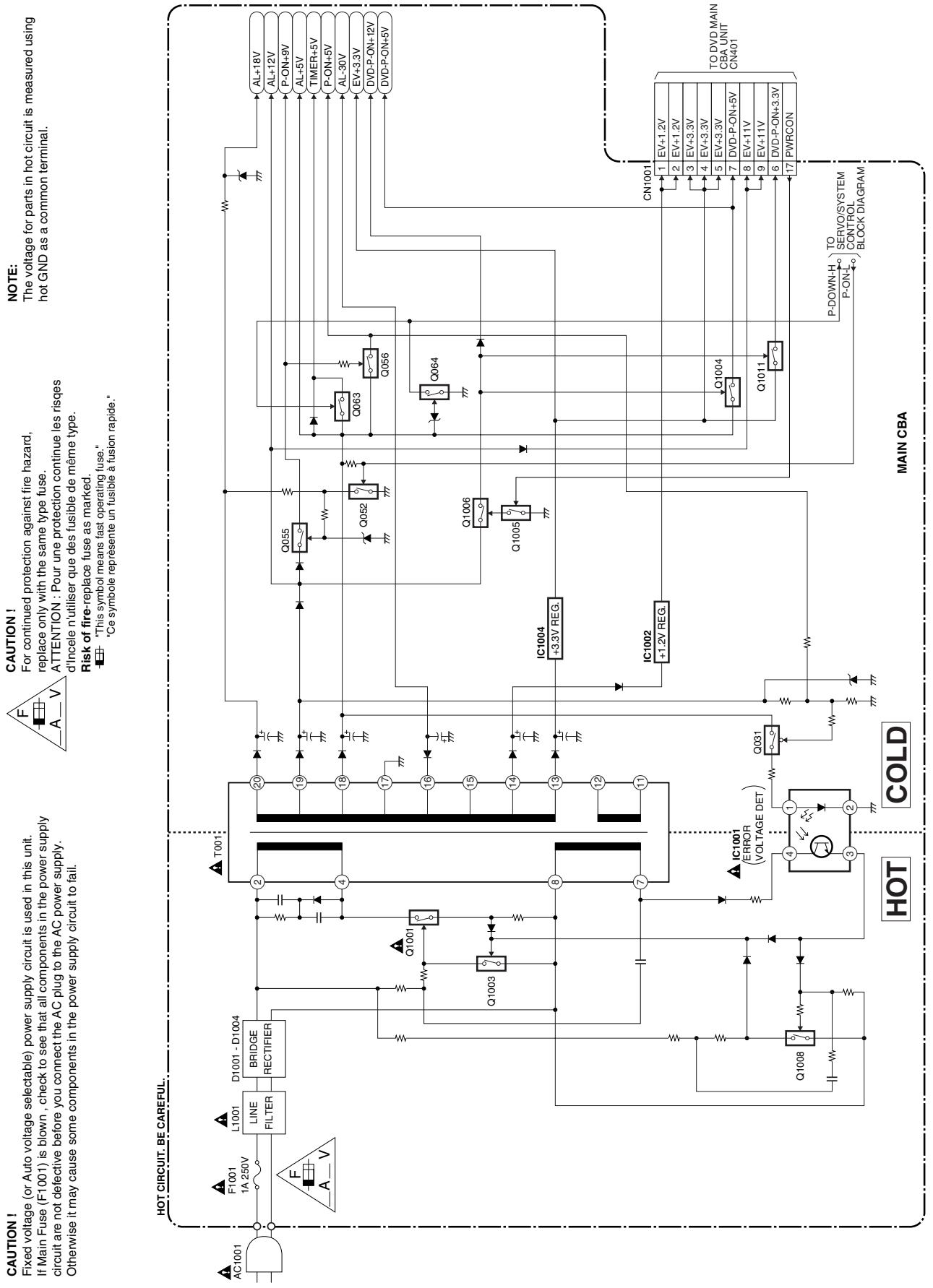
Audio Block Diagram (DV220SL8)



Hi-Fi Audio Block Diagram (DV225SL8)



Power Supply Block Diagram



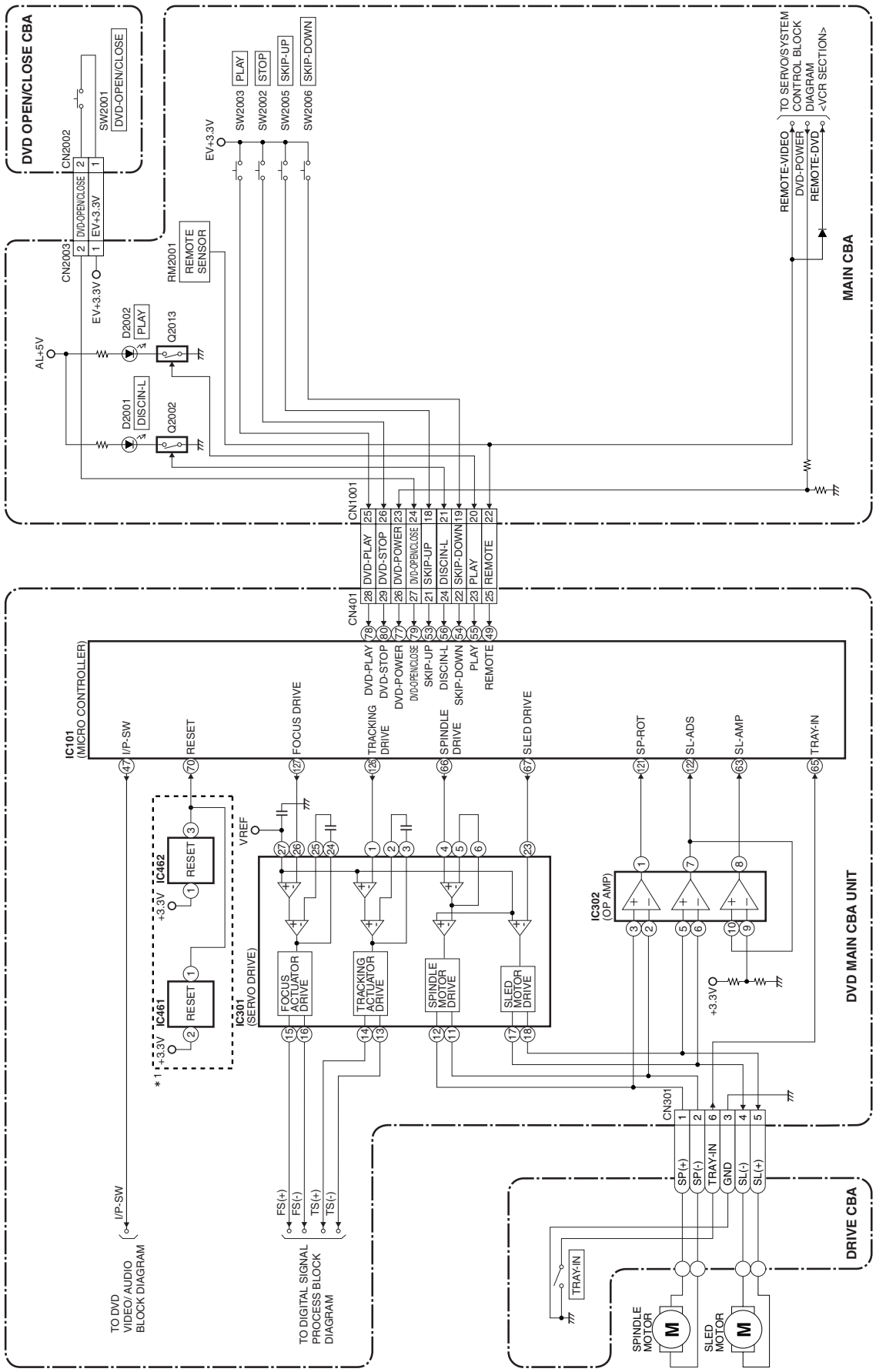
CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit. If Main Fuse (F1001) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

CAUTION !
For continued protection against fire hazard, replace only with the same type fuse.
ATTENTION : Pour une protection continue les risques d'Incele n'utiliser que des fusible de même type.
Risk of fire-replace fuse as marked.
"This symbol means fast operating fuse."
"Ce symbole représente un fusible à fusion rapide."

NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

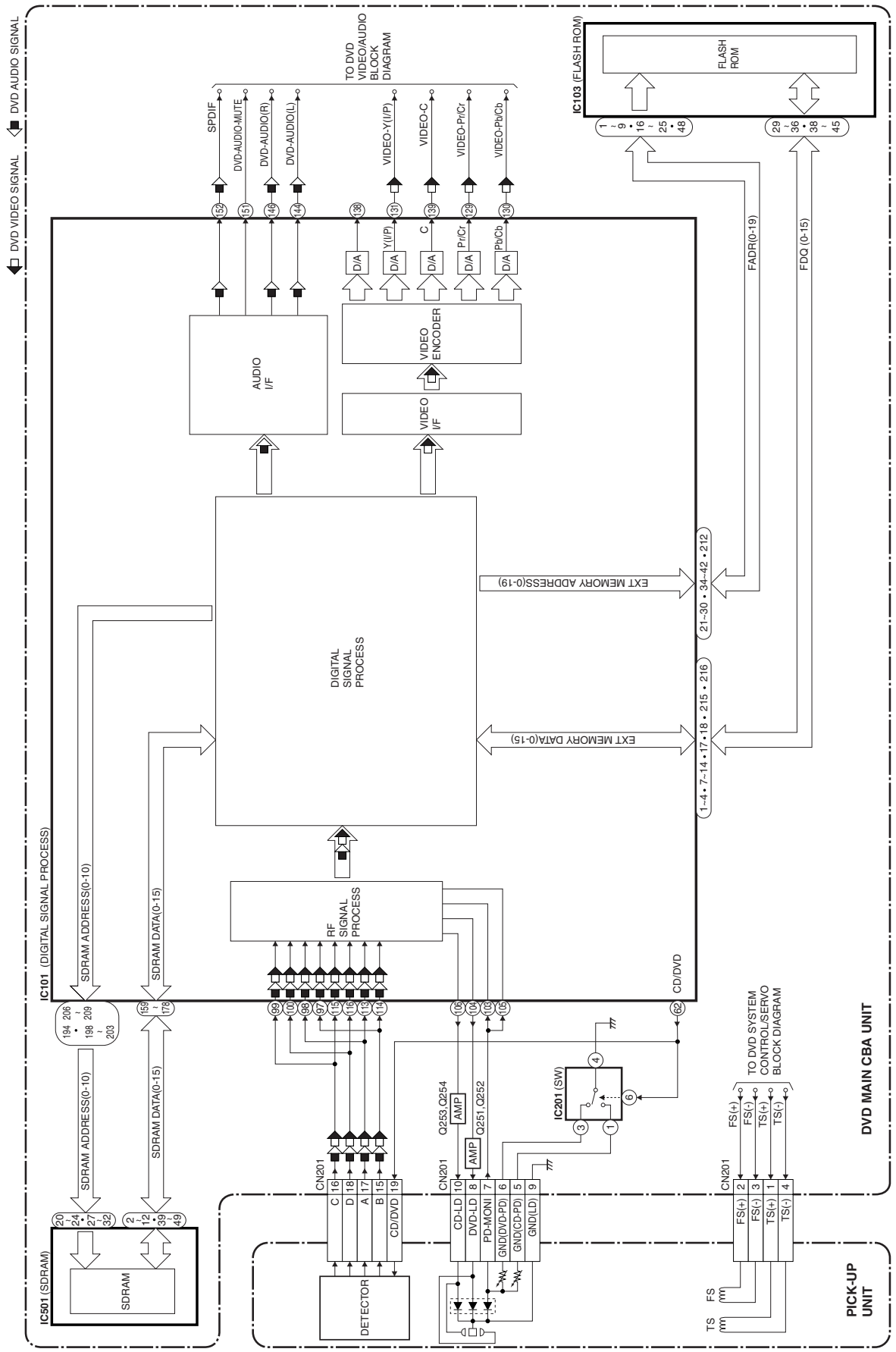
BLOCK DIAGRAMS <DVD SECTION>

DVD System Control / Servo Block Diagram

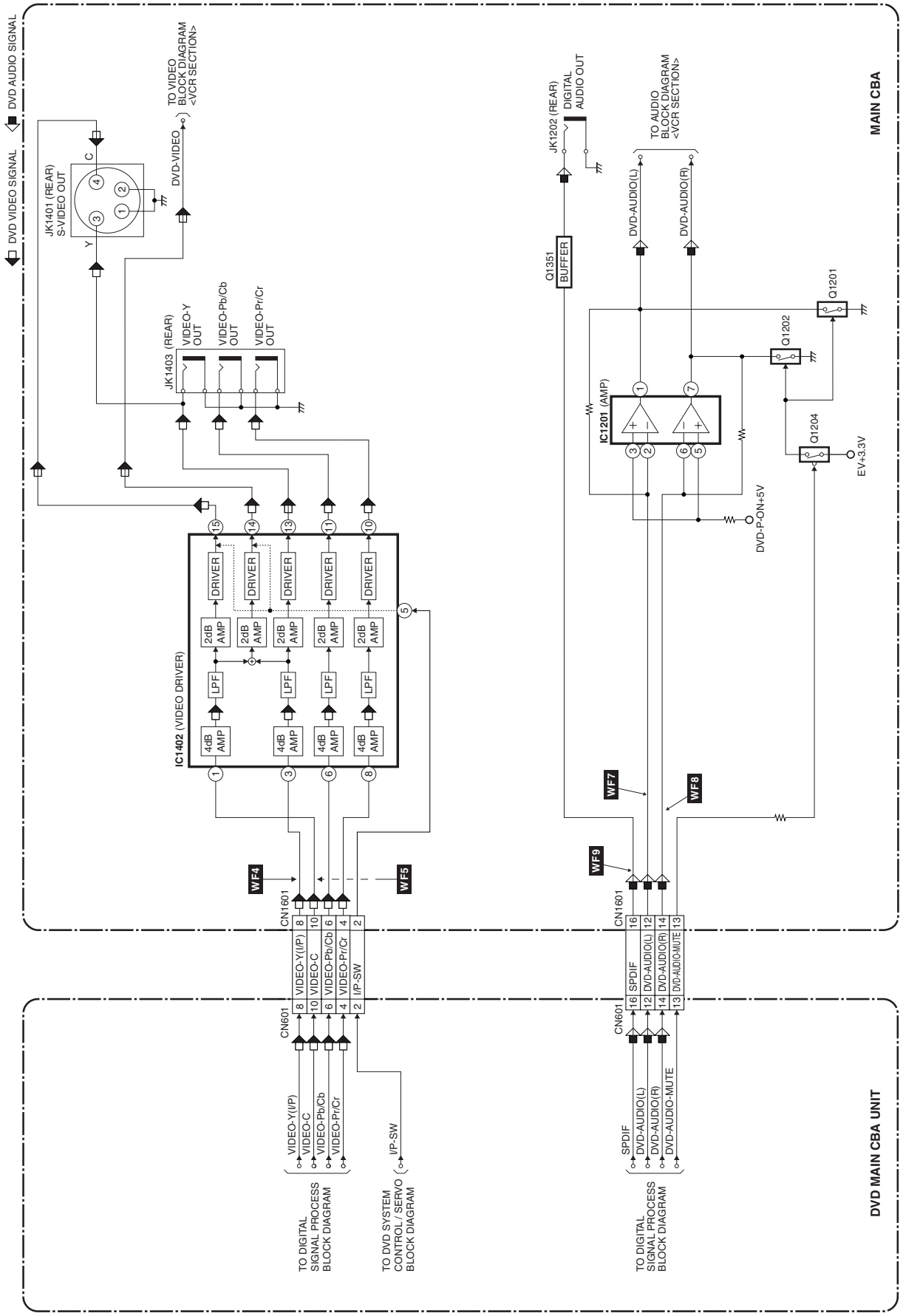


***1 NOTE:**
Either IC461 or IC462 is used for DVD MAIN CBA UNIT.

Digital Signal Process Block Diagram



DVD Video / Audio Block Diagram



SCHEMATIC DIAGRAMS / CBA'S AND TEST POINTS

Standard Notes

WARNING

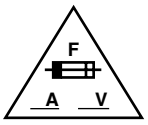
Many electrical and mechanical parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the mark "⚠" in the schematic diagram and the parts list. Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

Notes:

1. Do not use the part number shown on these drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since these drawings were prepared.
2. All resistance values are indicated in ohms ($K = 10^3$, $M = 10^6$).
3. Resistor wattages are 1/4W or 1/6W unless otherwise specified.
4. All capacitance values are indicated in μF ($P = 10^{-6}$ μF).
5. All voltages are DC voltages unless otherwise specified.

LIST OF CAUTION, NOTES, AND SYMBOLS USED IN THE SCHEMATIC DIAGRAMS ON THE FOLLOWING PAGES:

1. CAUTION:



FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQES D'INCELE N'UTILISER QUE DES FUSIBLE DE MÊME TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.

This symbol means fast operating fuse.
Ce symbole reprèsente un fusible à fusion rapide.

2. CAUTION:

Fixed Voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F1001) is blown, first check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

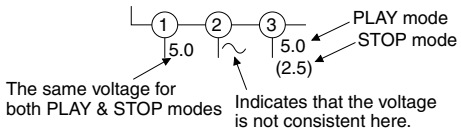
3. Note:

1. Do not use the part number shown on the drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since the drawings were prepared.
2. To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.

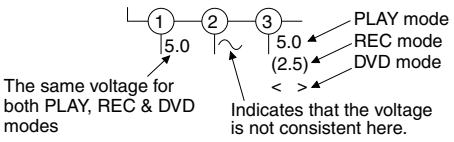
4. Mode: SP/REC

5. Voltage indications for PLAY and REC modes on the schematics are as shown below:

< DVD Section >



< VCR Section >

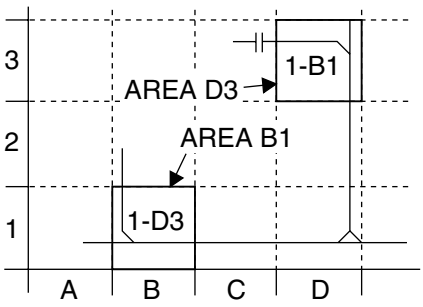


Unit: Volts

6. How to read converged lines

1-D3
- Distinction Area
- Line Number (1 to 3 digits)

Examples:
1. "1-D3" means that line number "1" goes to the line number "1" of the area "D3".
2. "1-B1" means that line number "1" goes to the line number "1" of the area "B1".



7. Test Point Information

 : Indicates a test point with a jumper wire across a hole in the PCB.

 : Used to indicate a test point with a component lead on foil side.

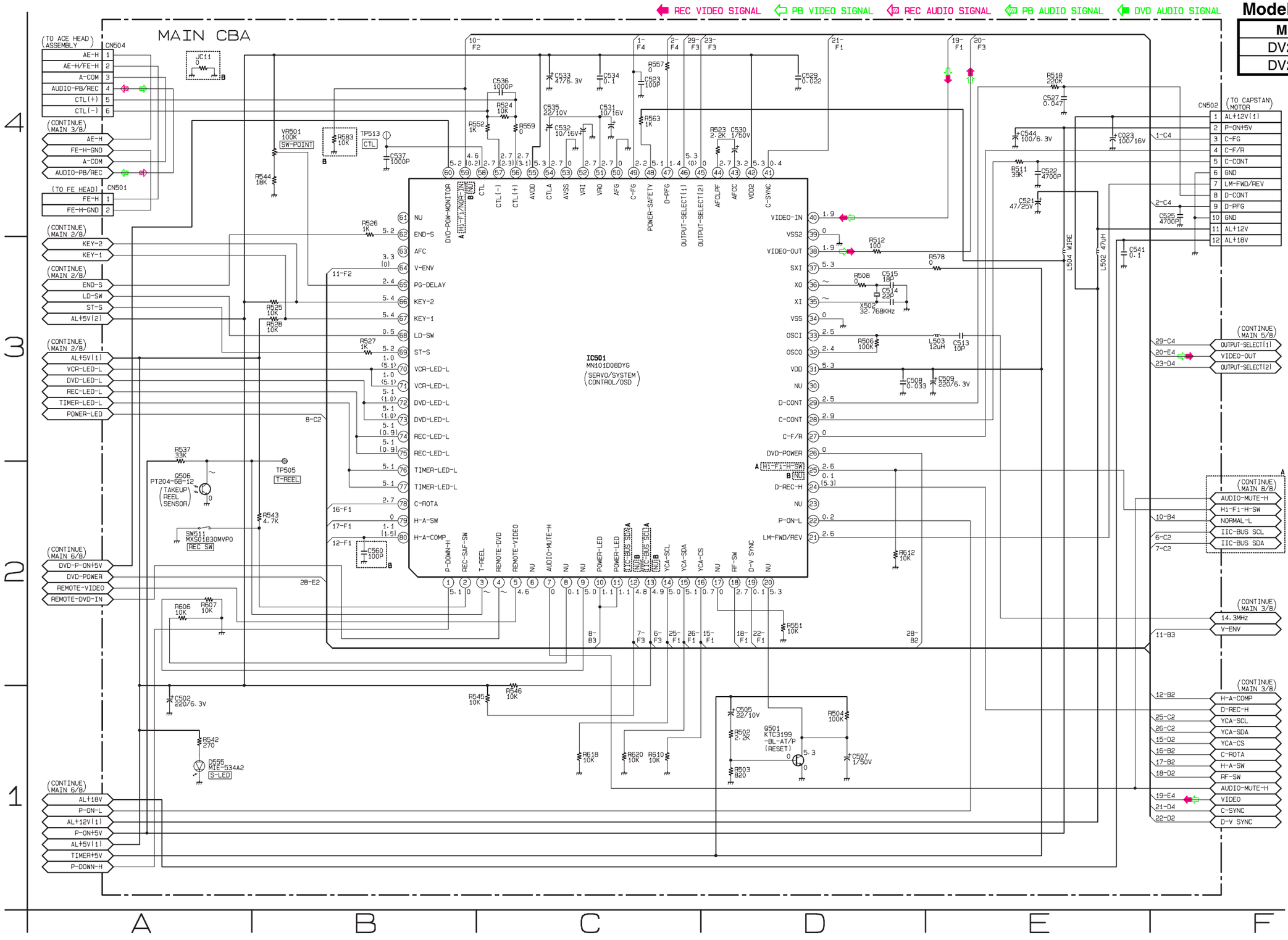
 : Used to indicate a test point with no test pin.

 : Used to indicate a test point with a test pin.

Main 1/8 Schematic Diagram < VCR Section >

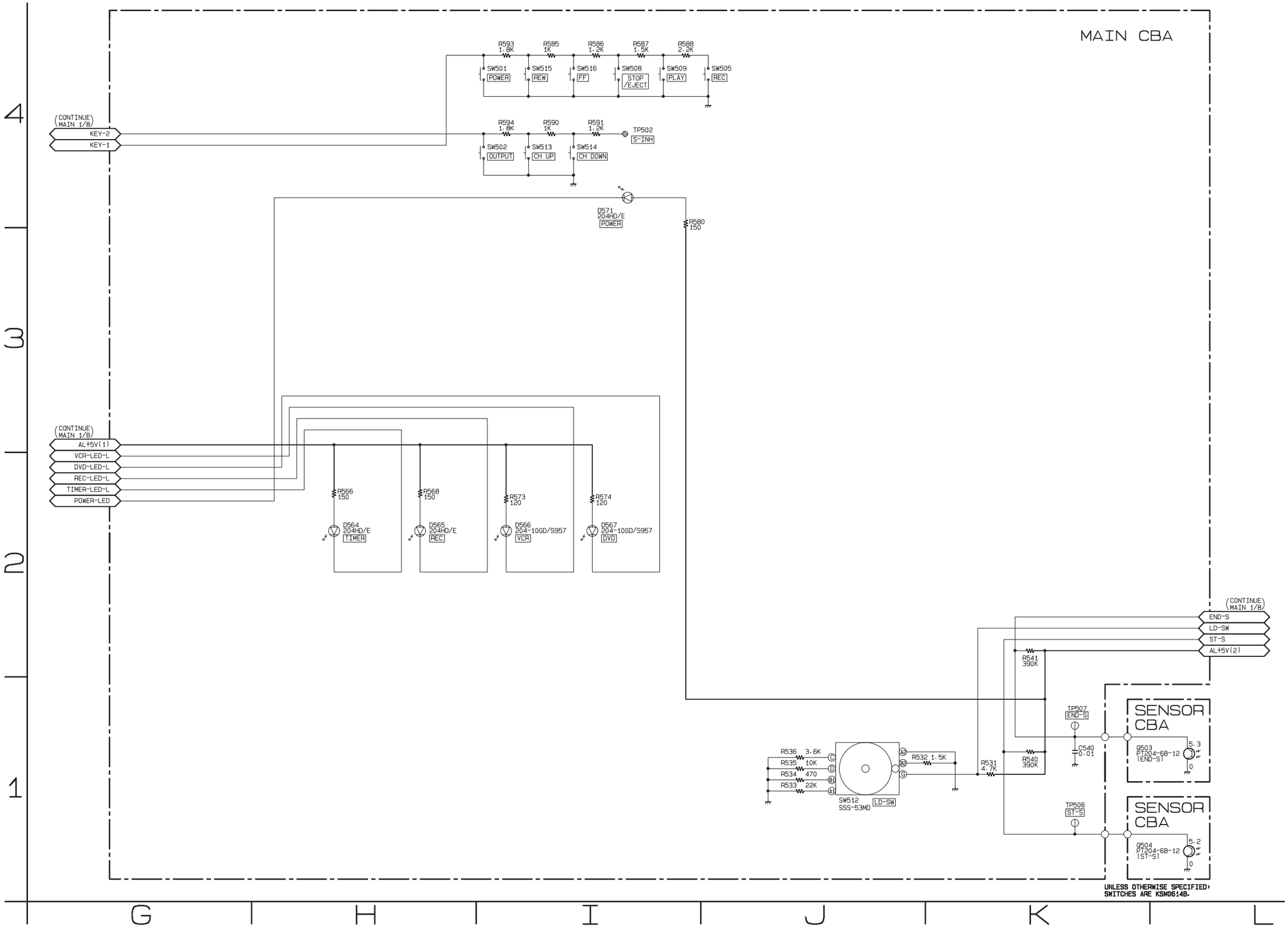
Comparison Chart of Models and Marks

MODEL	MARK
DV225SL8	A
DV220SL8	B



E8E00SCM1

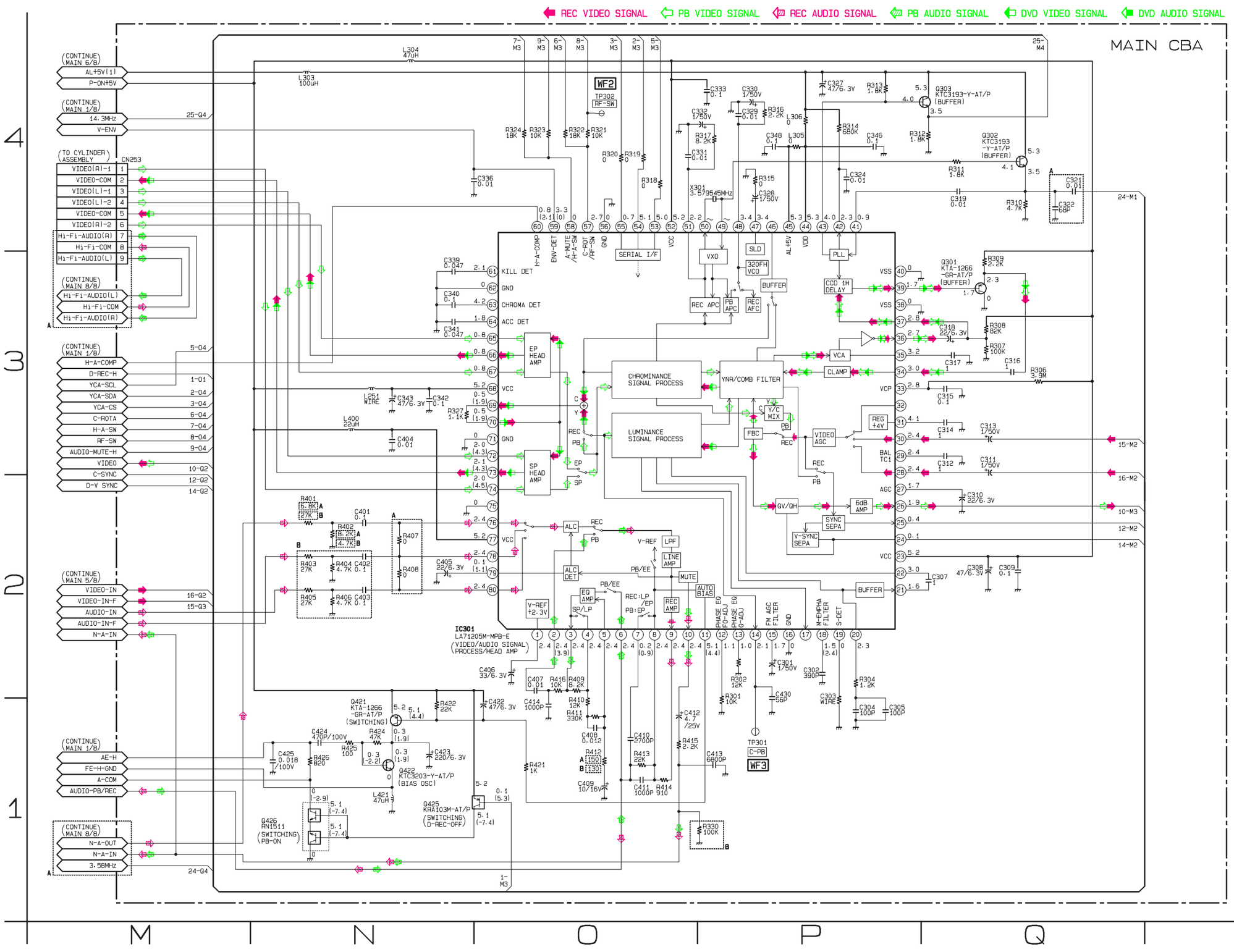
Main 2/8 & Sensor Schematic Diagram < VCR Section >



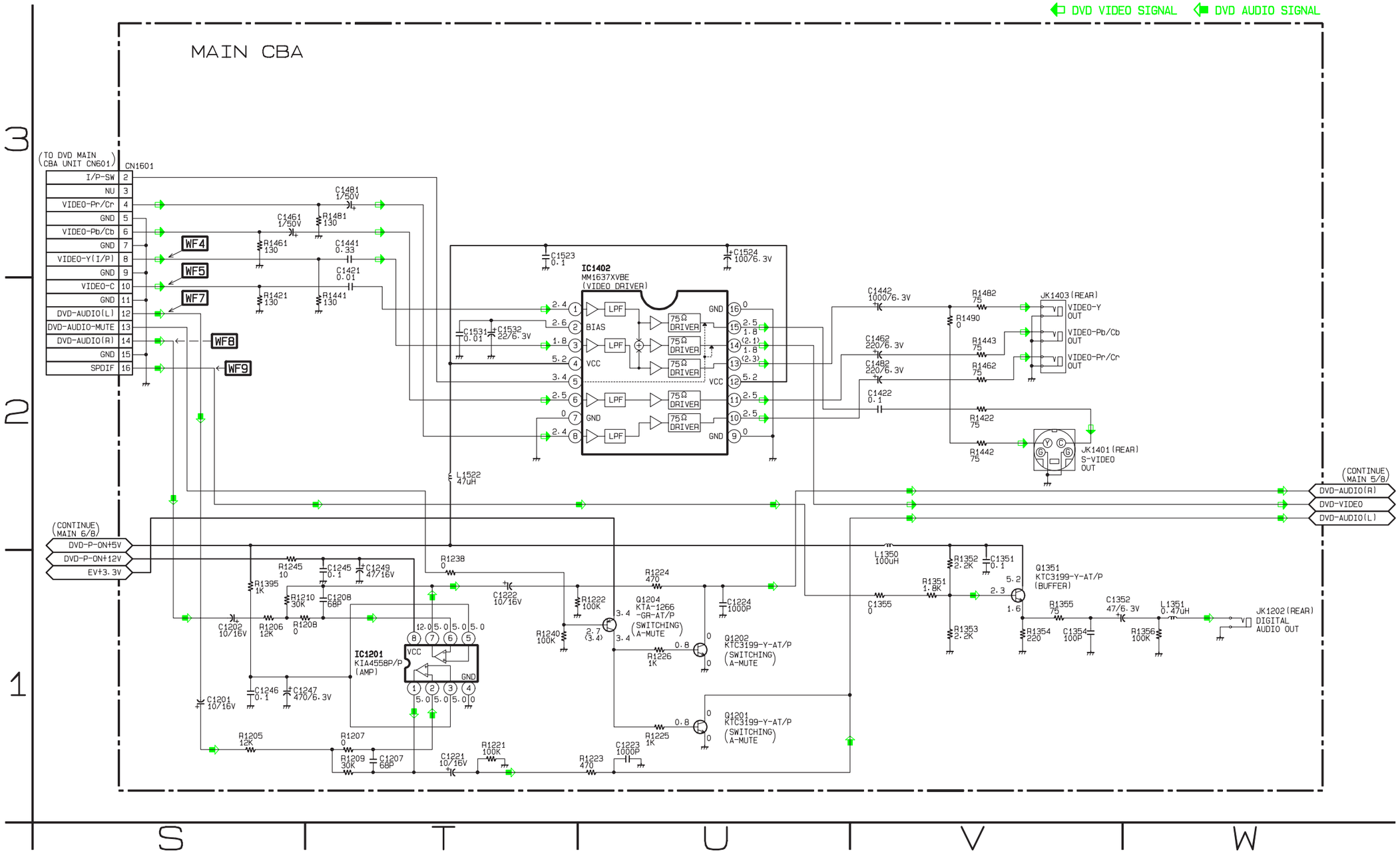
Main 3/8 Schematic Diagram < VCR Section >

Comparison Chart of Models and Marks

MODEL	MARK
DV225SL8	A
DV220SL8	B



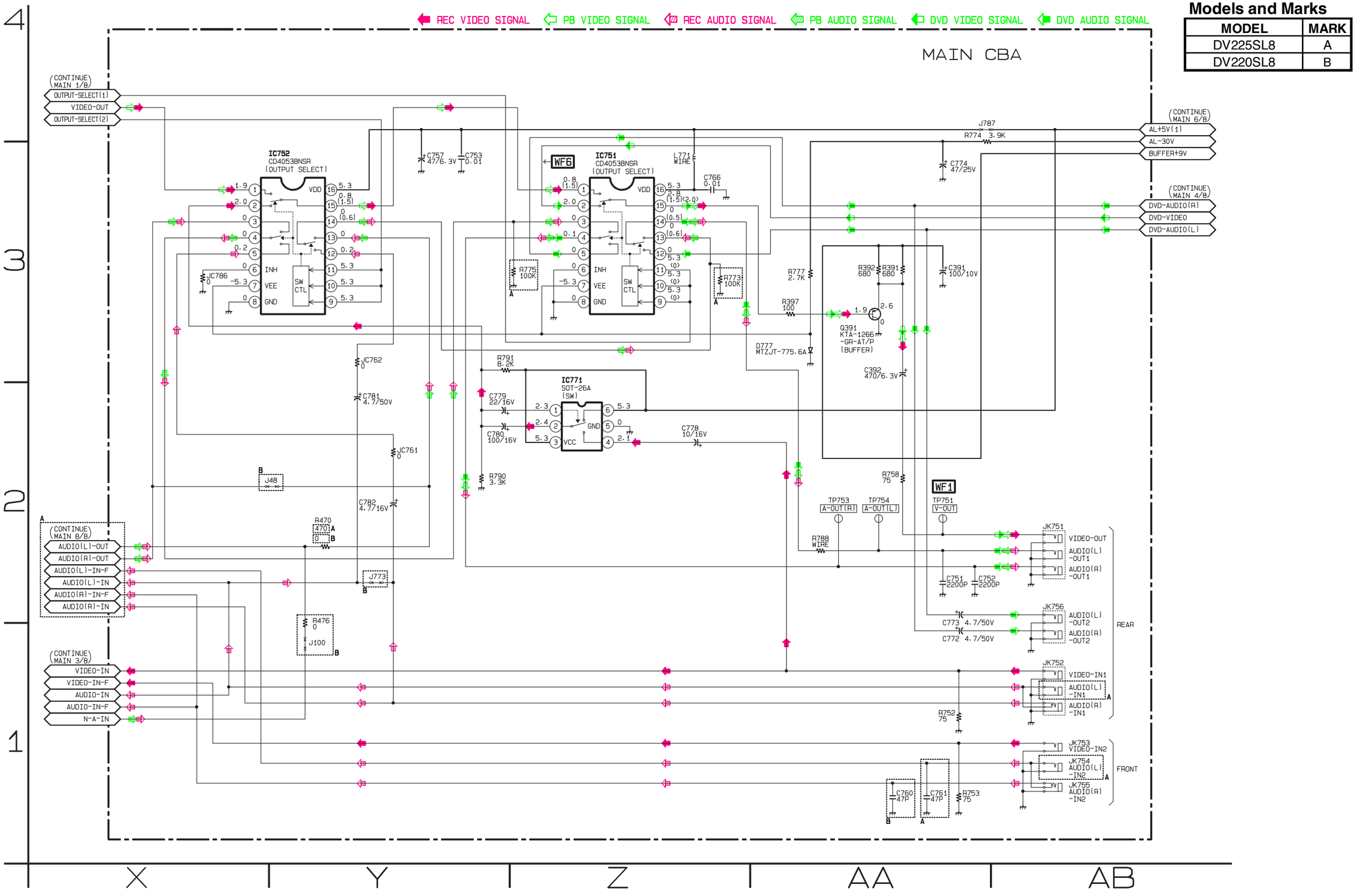
Main 4/8 Schematic Diagram < VCR Section >



Main 5/8 Schematic Diagram < VCR Section >

Comparison Chart of Models and Marks

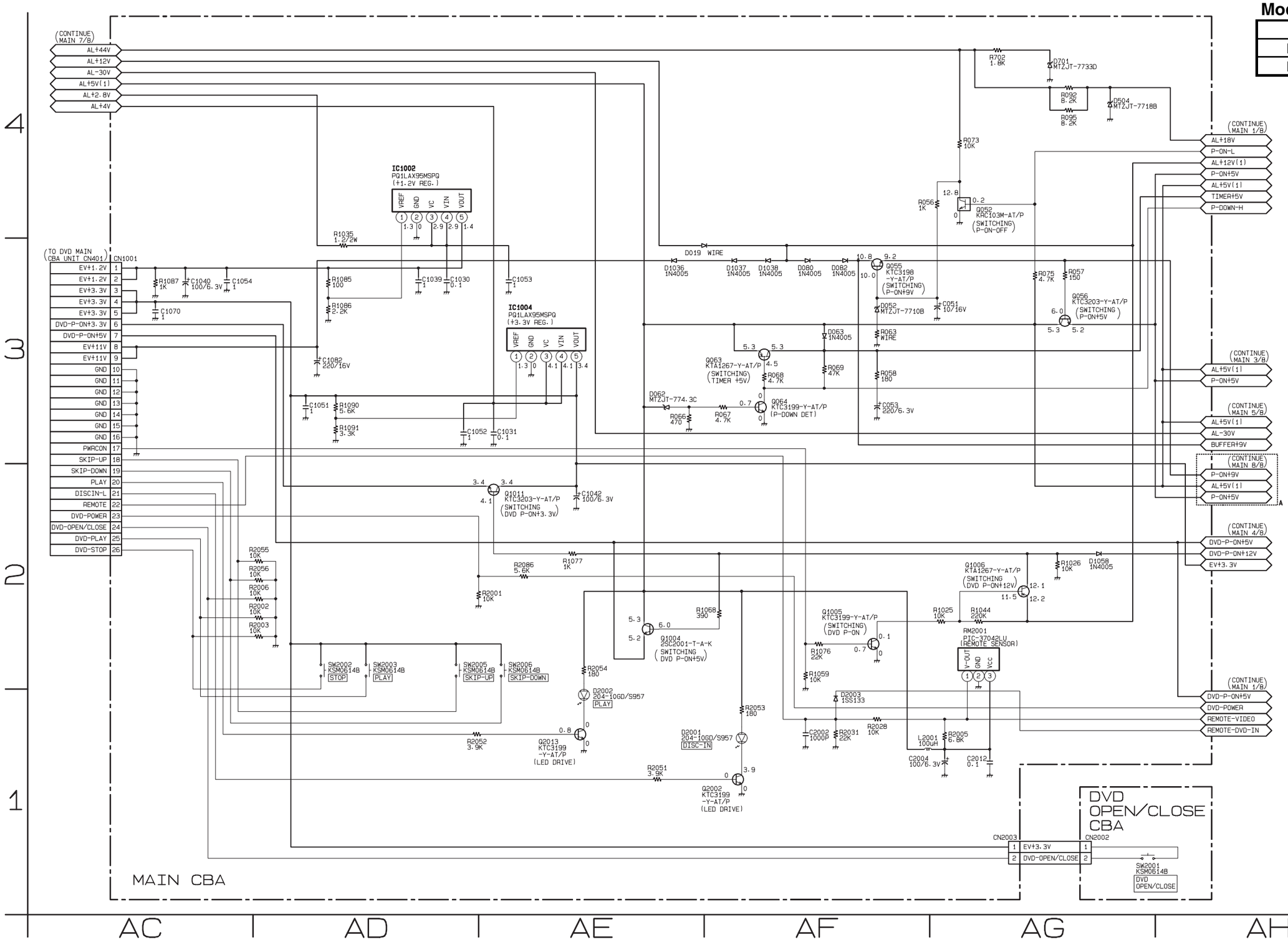
MODEL	MARK
DV225SL8	A
DV220SL8	B



Main 6/8 & DVD Open/Close Schematic Diagram < VCR Section >

Comparison Chart of Models and Marks

MODEL	MARK
DV225SL8	A
DV220SL8	B



Main 7/8 Schematic Diagram < VCR Section >

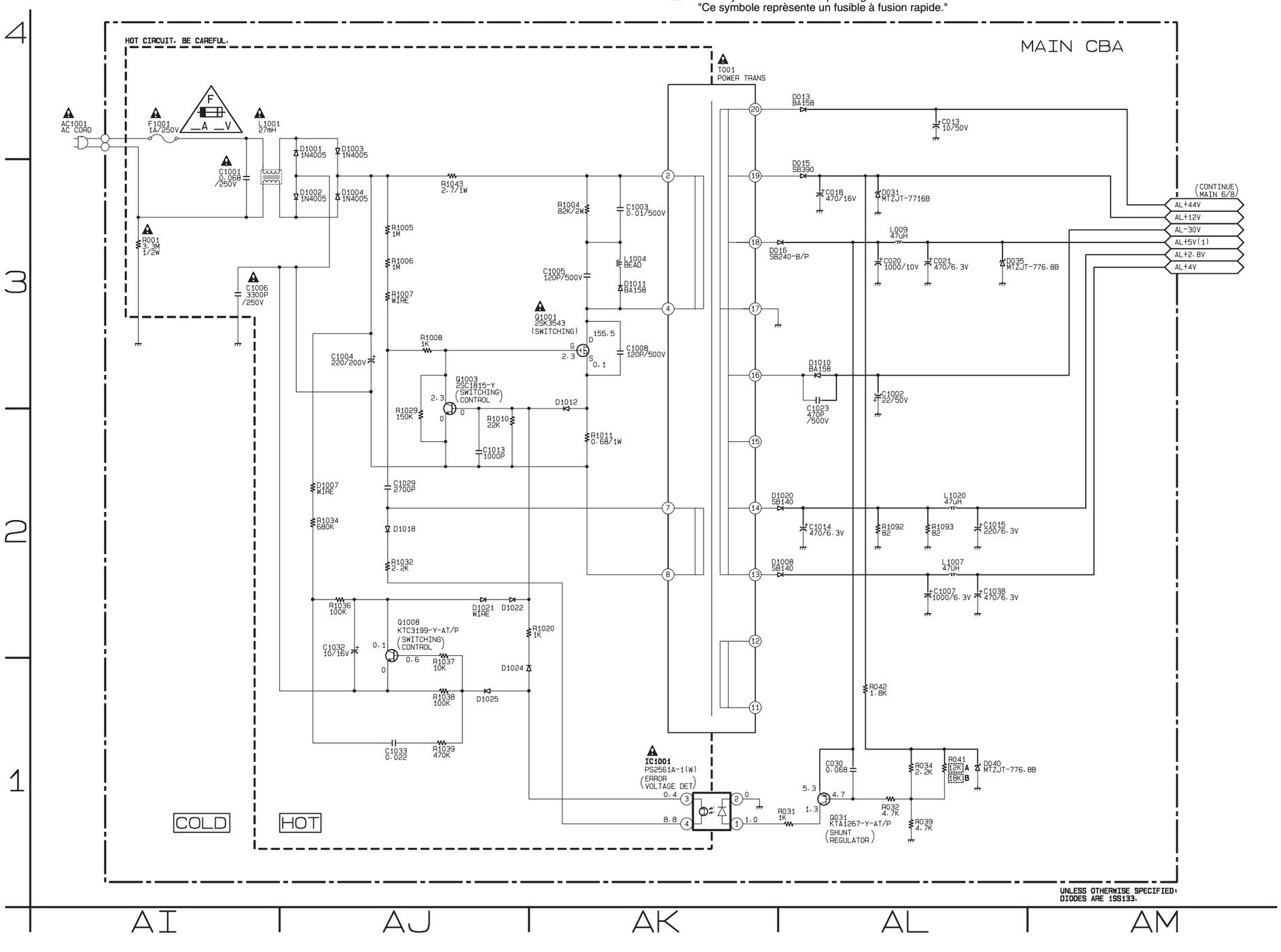
CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F1001) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

CAUTION !
For continued protection against fire hazard,
replace only with the same type fuse.
ATTENTION : Pour une protection continue les risqes
d'Incele n'utiliser que des fusible de même type.
Risk of fire-replace fuse as marked.
"This symbol means fast operating fuse."
"Ce symbole représente un fusible à fusion rapide."

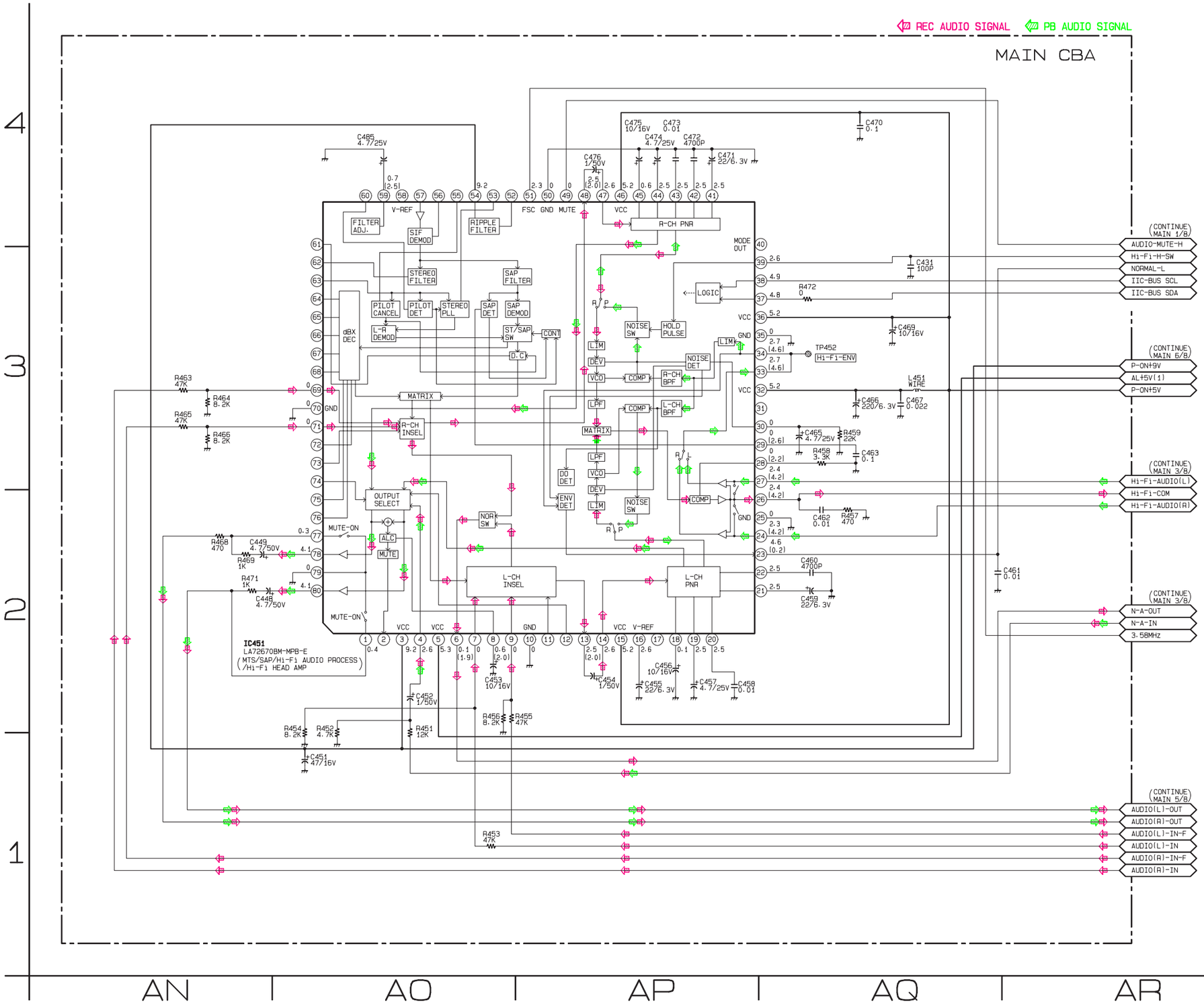
NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

Comparison Chart of Models and Marks

MODEL	MARK
DV225SL8	A
DV220SL8	B

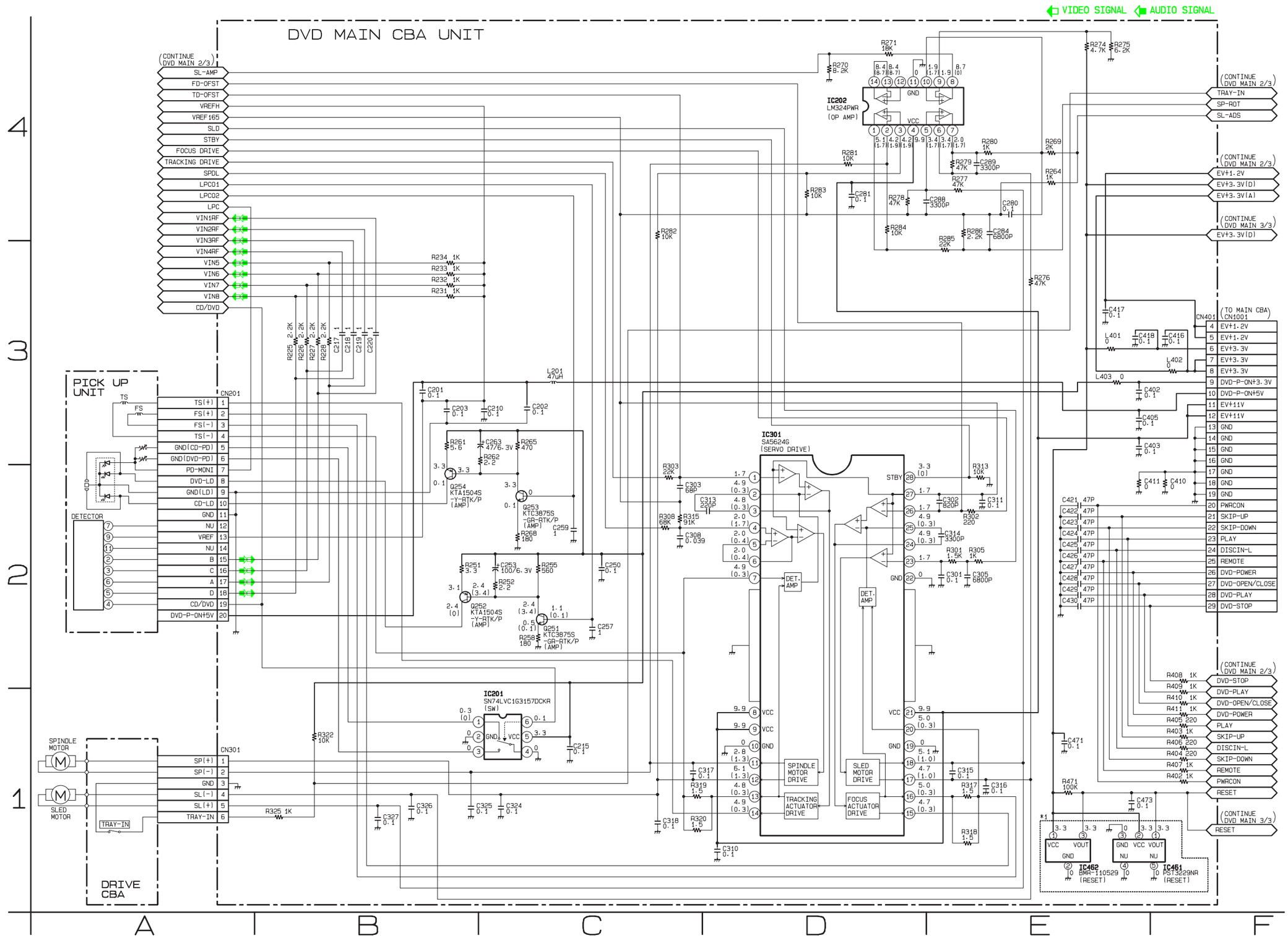


Main 8/8 Schematic Diagram (DV225SL8) < VCR Section >

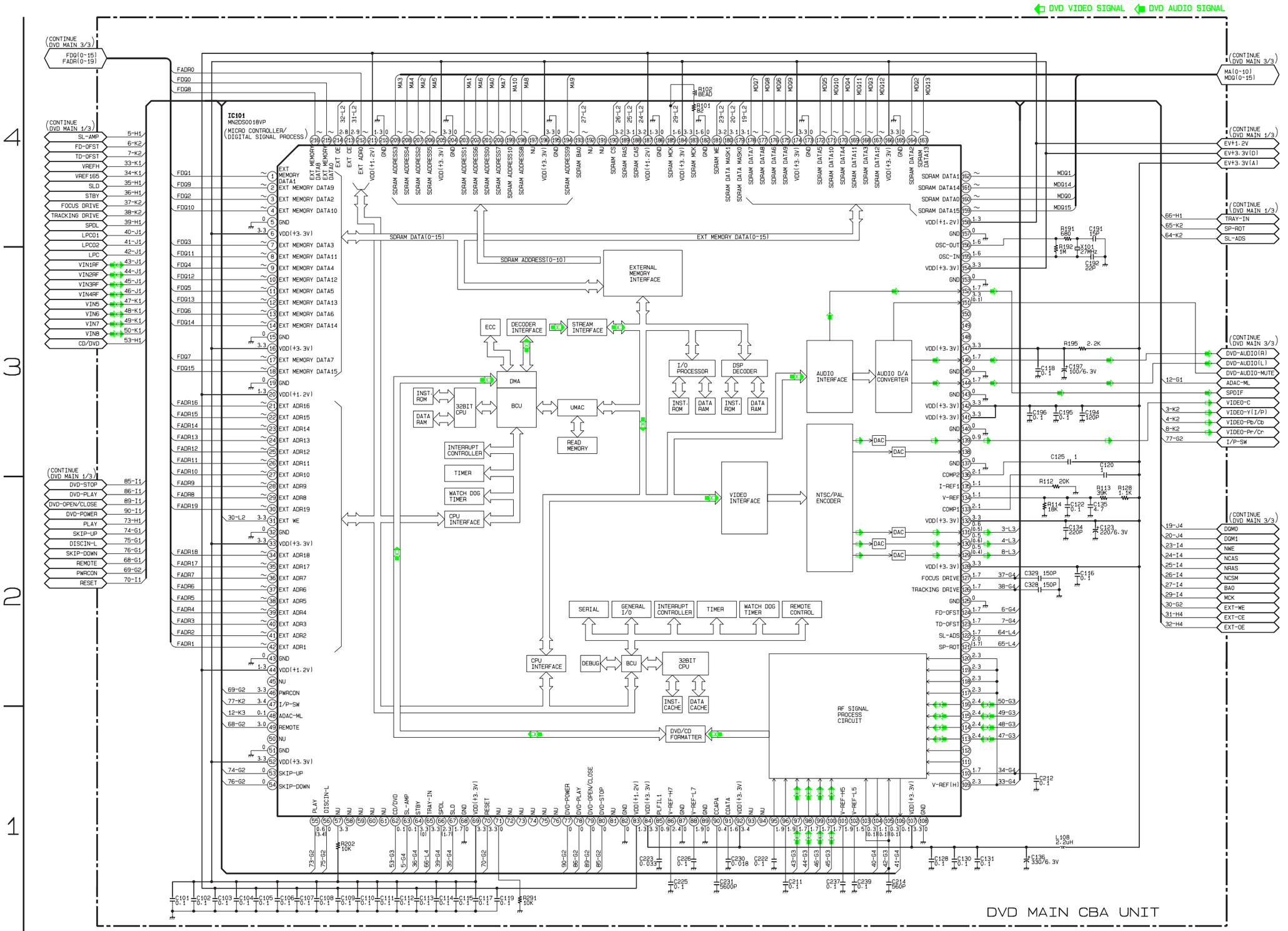


DVD Main 1/3 Schematic Diagram < DVD Section >

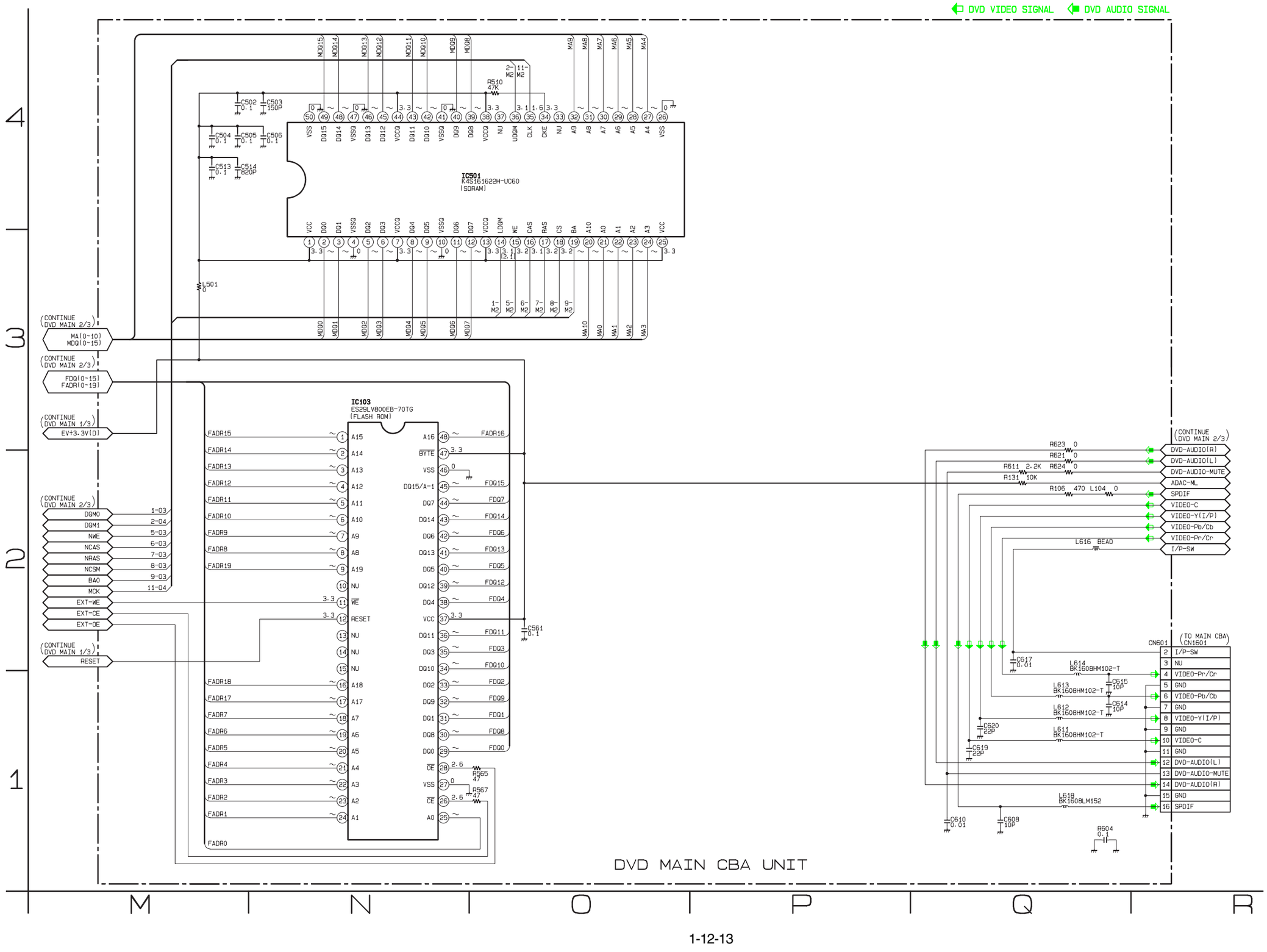
***1 NOTE:**
Either IC461 or IC462 is used for DVD MAIN CBA UNIT.



DVD Main 2/3 Schematic Diagram < DVD Section >



DVD Main 3/3 Schematic Diagram < DVD Section >



Main CBA Top View

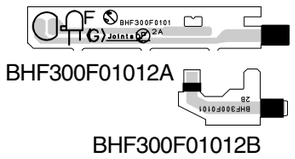
CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F1001) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

CAUTION !
For continued protection against fire hazard,
replace only with the same type fuse.
ATTENTION : Pour une protection continue les risqes d'Incele n'utiliser que des fusible de même type.
Risk of fire-replace fuse as marked.
"This symbol means fast operating fuse."
"Ce symbole représente un fusible à fusion rapide."

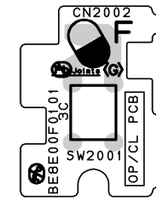
Because a hot chassis ground is present in the power supply circut, an isolation transformer must be used. Also, in order to have the ability to increase the input slowly, when troubleshooting this type power supply circuit, a variable isolation transformer is required.

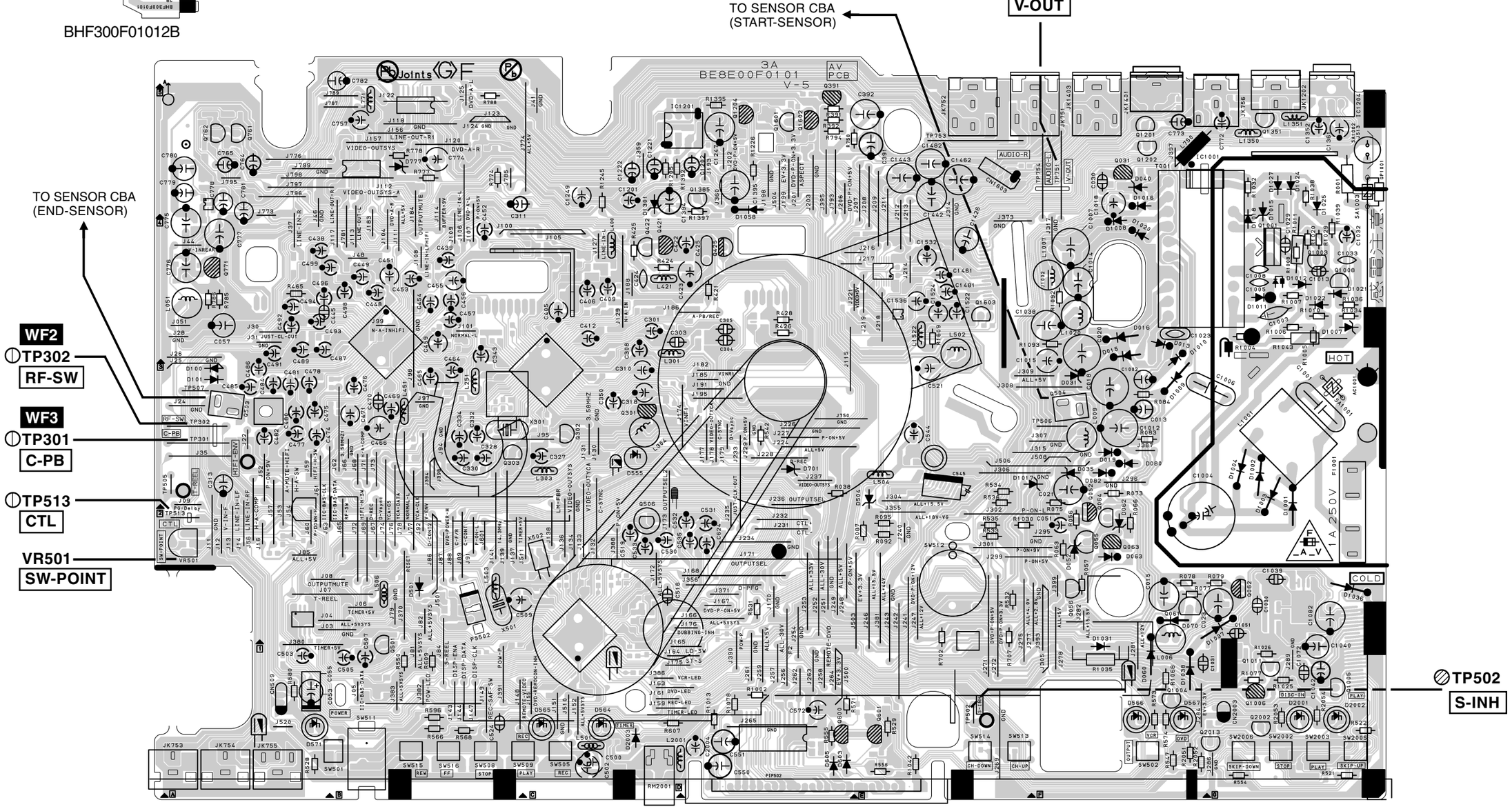
NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

Sensor CBA Top View



DVD Open/Close CBA Top View





BE8E00F01013A

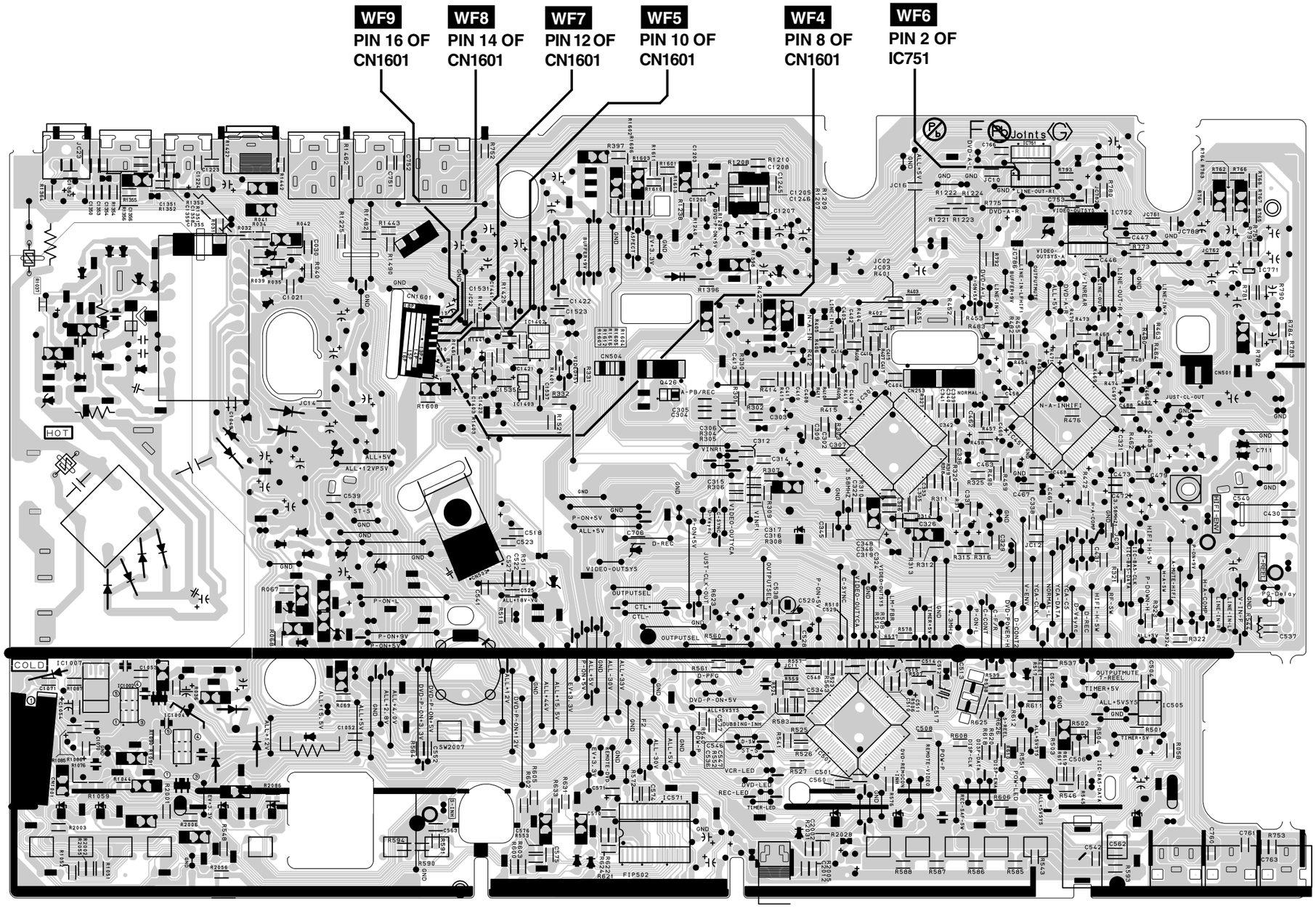
Main CBA Bottom View

CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F1001) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

CAUTION !
For continued protection against fire hazard,
replace only with the same type fuse.
ATTENTION : Pour une protection continue les risqes d'Incele n'utiliser que des fusible de même type.
Risk of fire-replace fuse as marked.
"This symbol means fast operating fuse."
"Ce symbole représente un fusible à fusion rapide."

Because a hot chassis ground is present in the power supply circut, an isolation transformer must be used. Also, in order to have the ability to increase the input slowly, when troubleshooting this type power supply circuit, a variable isolation transformer is required.

NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.



WAVEFORMS

NOTE:

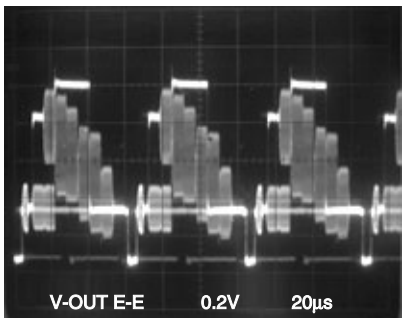
Input

VCR: COLOR BAR SIGNAL (WITH 1KHz AUDIO SIGNAL)
(WF1~WF3)

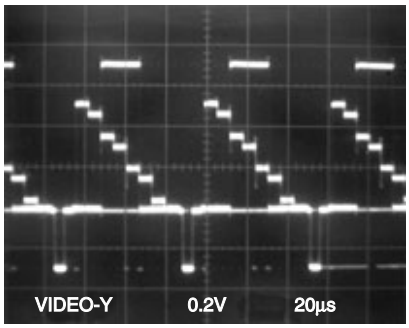
DVD: POWER ON (STOP) MODE
(WF4~WF6)

CD: 1kHz PLAY
(WF7~WF9)

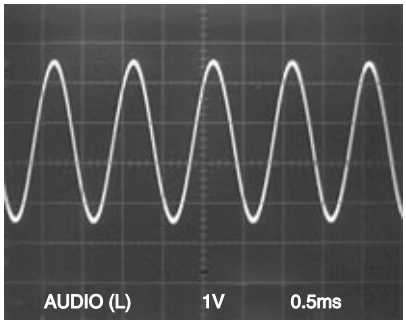
WF1 TP751



WF4 Pin 8 of CN1601

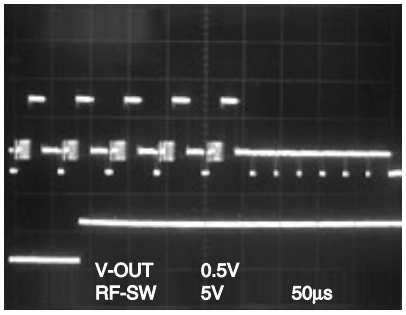


WF7 Pin 12 of CN1601

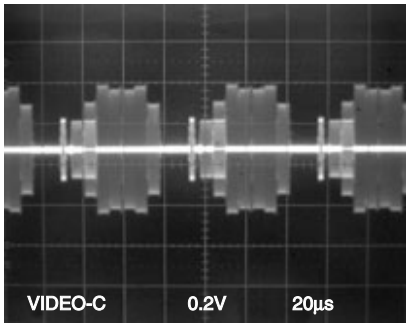


WF1 UPPER TP751

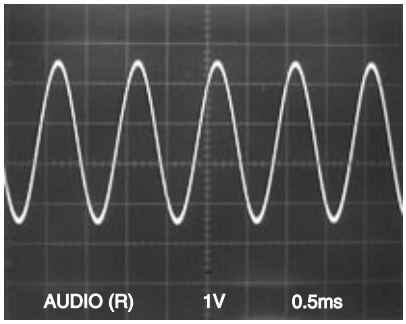
WF2 LOWER TP302



WF5 Pin 10 of CN1601

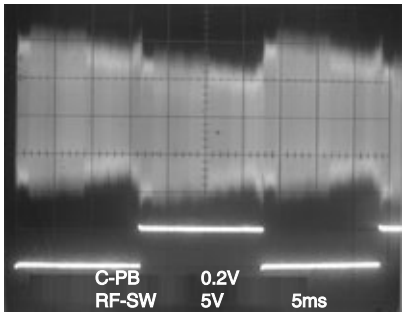


WF8 Pin 14 of CN1601

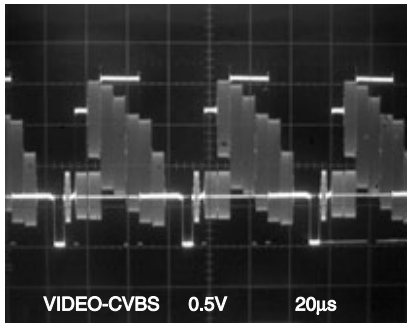


WF3 UPPER TP301

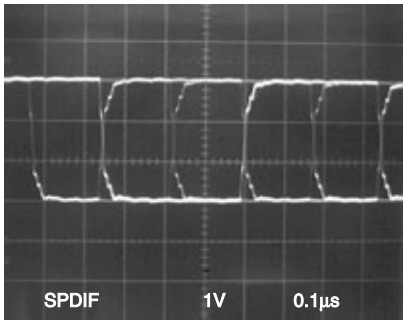
WF2 LOWER TP302



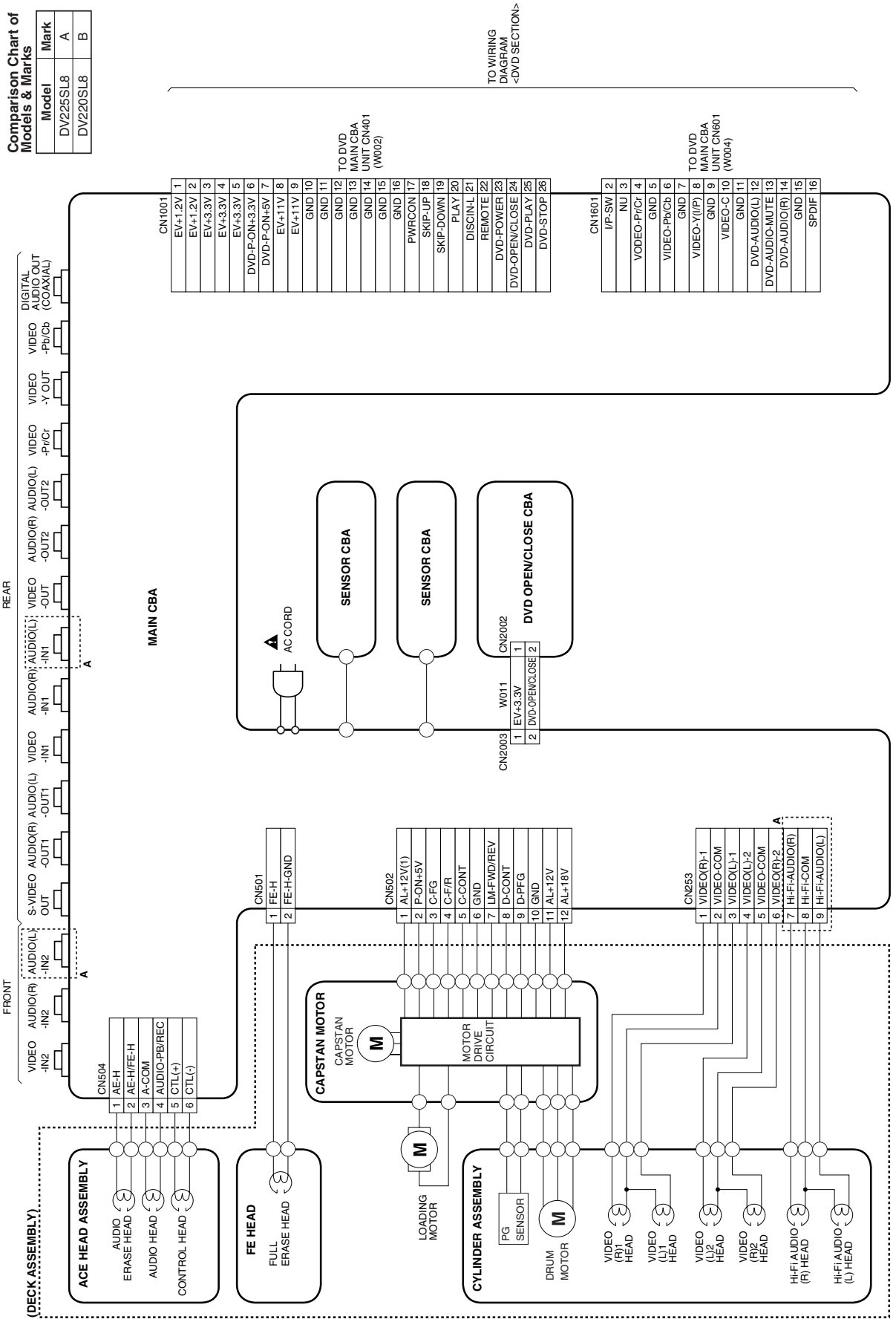
WF6 Pin 2 of IC751



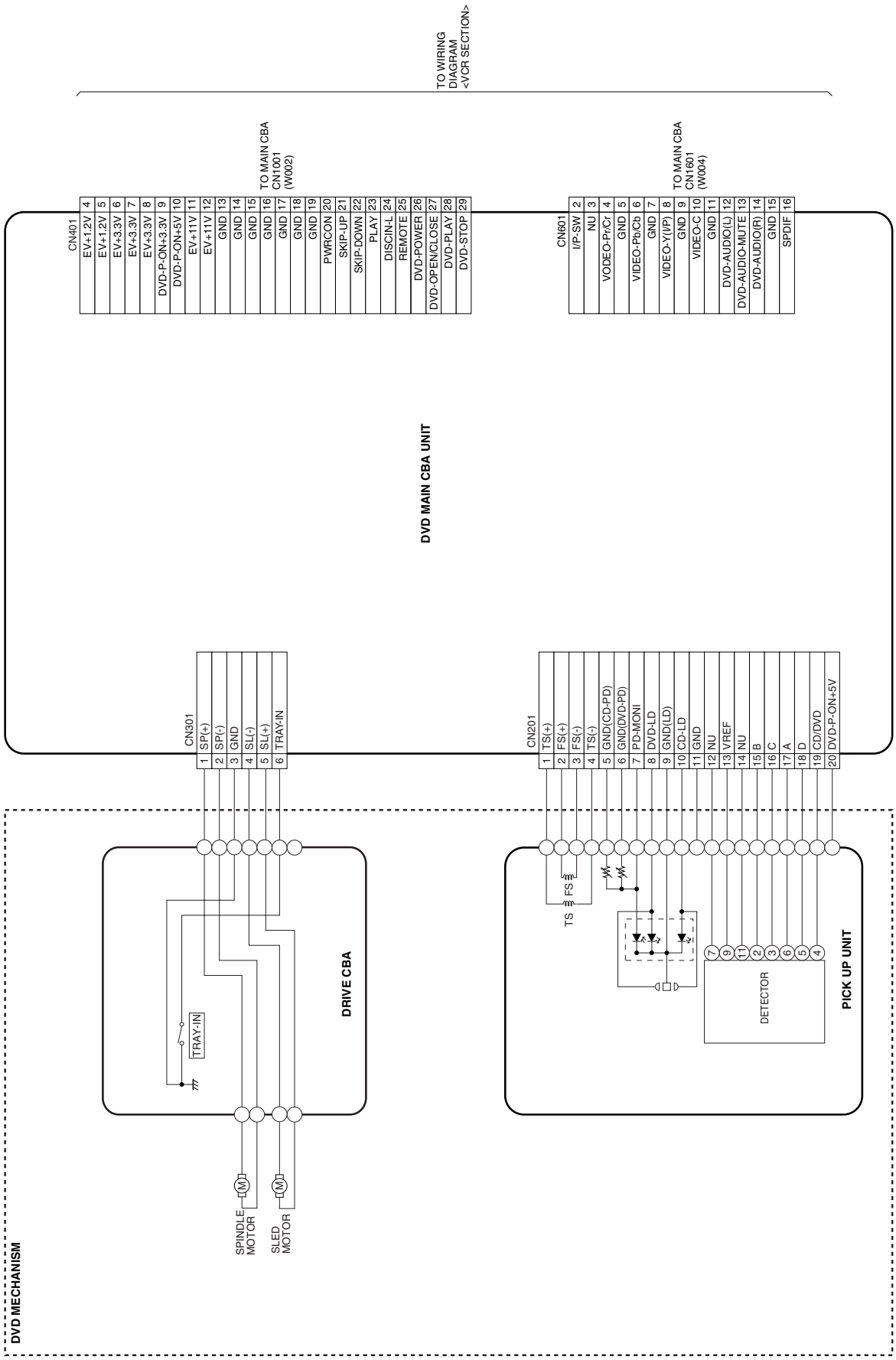
WF9 Pin 16 of CN1601



WIRING DIAGRAM < VCR SECTION >



WIRING DIAGRAM < DVD SECTION >



SYSTEM CONTROL TIMING CHARTS

< VCR Section >

Mode SW: LD-SW

LD-SW Position detection A/D Input voltage Limit (Calculated voltage)	Symbol
3.76 V ~ 4.50 V (4.12 V)	EJ
4.51 V ~ 5.00 V (5.00 V)	CL
0.00 V ~ 0.25 V (0.00 V)	SB
1.06 V ~ 1.50 V (1.21 V)	TL
0.66 V ~ 1.05 V (0.91 V)	FB
1.99 V ~ 2.60 V (2.17 V)	SF
1.51 V ~ 1.98 V (1.80 V)	SM
3.20 V ~ 3.75 V (3.40 V)	AU
0.26 V ~ 0.65 V (0.44 V)	AL
4.51 V ~ 5.00 V (5.00 V)	SS
2.61 V ~ 3.19 V (2.97 V)	RS

Note:

Note: EJ → RS: Loading FWD (LM-FWD / REV “H”)
RS → EJ: Loading REV (LM-FWD / REV “L”)
Stop (A) = Loading
Stop (B) = Unloading

Note:

Symbol	Loading Status
EJ	Eject
CL	Eject ~ REW Reel
SB	REW Reel ~ Stop (B)
TL	Stop (B) ~ Brake Cancel
FB	Brake Cancel ~ FF / REW
SF	FF / REW ~ Stop (M), (FF / REW)
SM	Stop (M), (FF / REW) ~ Stop (A)
AU	Stop (A) ~ Play / REC
AL	Play / REC ~ Still / Slow
SS	Still / Slow ~ RS (REW Search)
RS	RS (REW Search)

Still/Slow Control Frame Advance Timing Chart

1) SP Mode

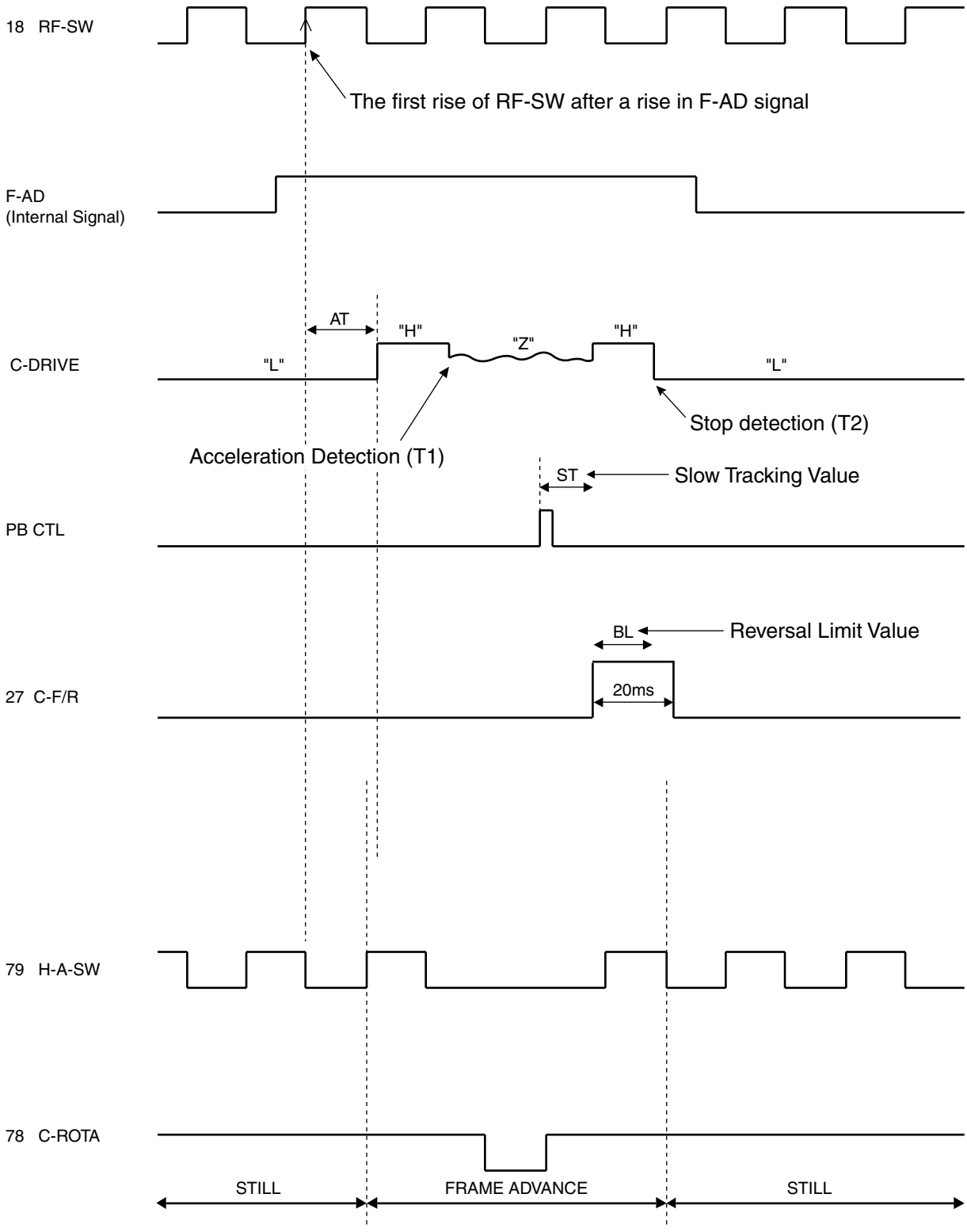


Fig. 1

2) LP/SLP Mode

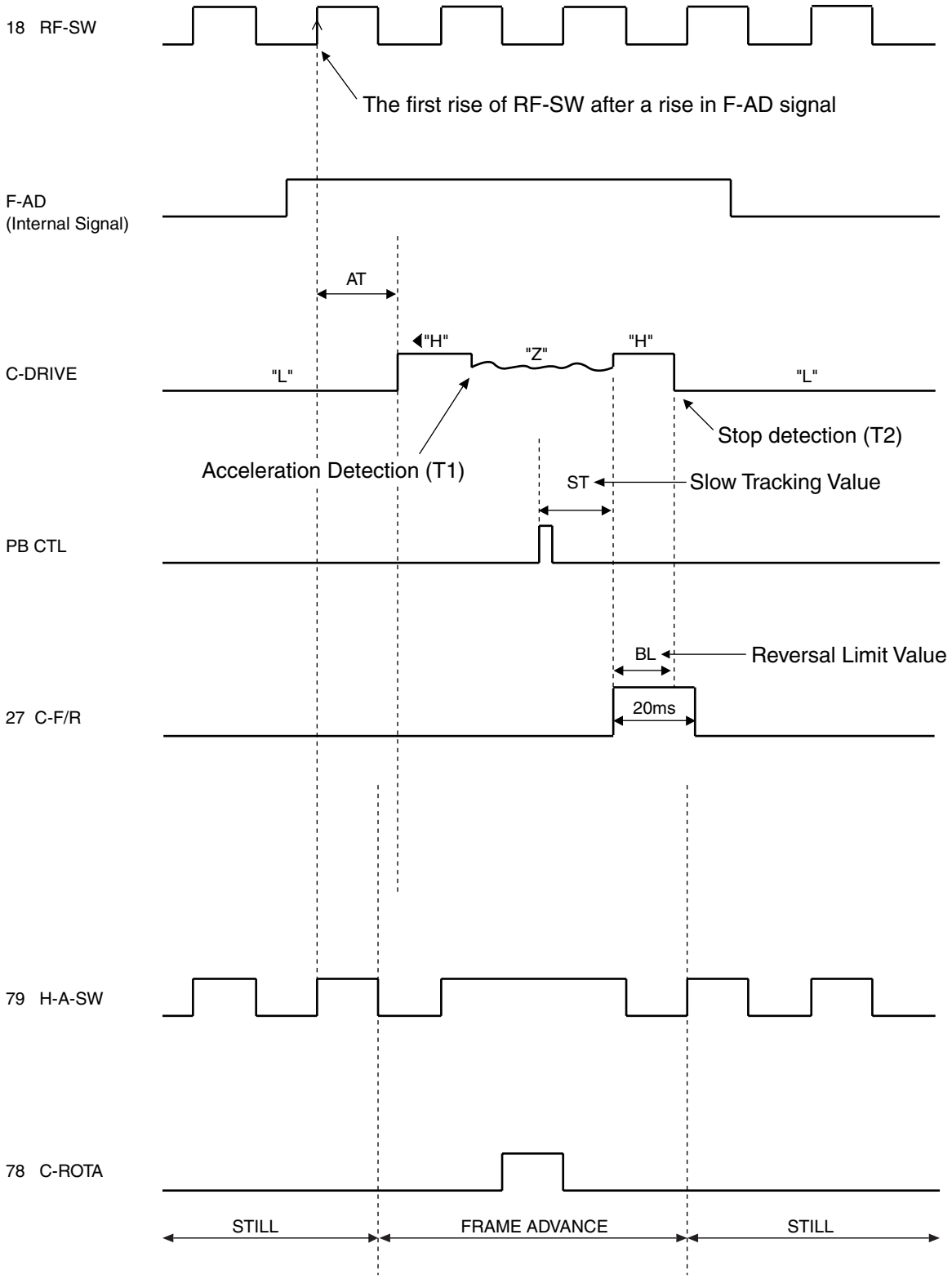


Fig. 2

1. EJECT (POWER OFF) -> CASSETTE IN (POWER ON) -> STOP(B) -> STOP(A) -> PLAY -> RS -> FS -> PLAY -> STILL -> PLAY -> STOP(A)

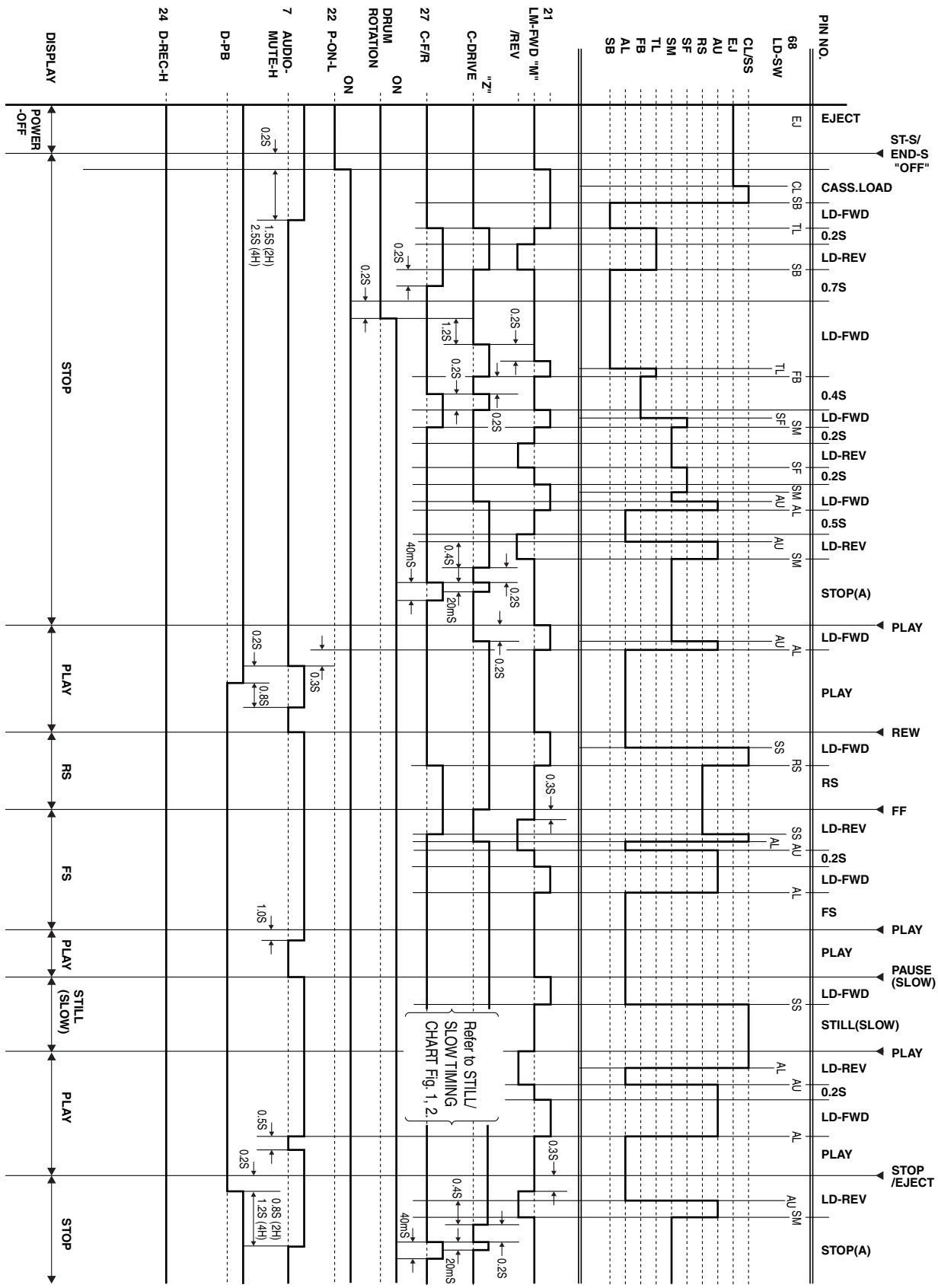


Fig. 3

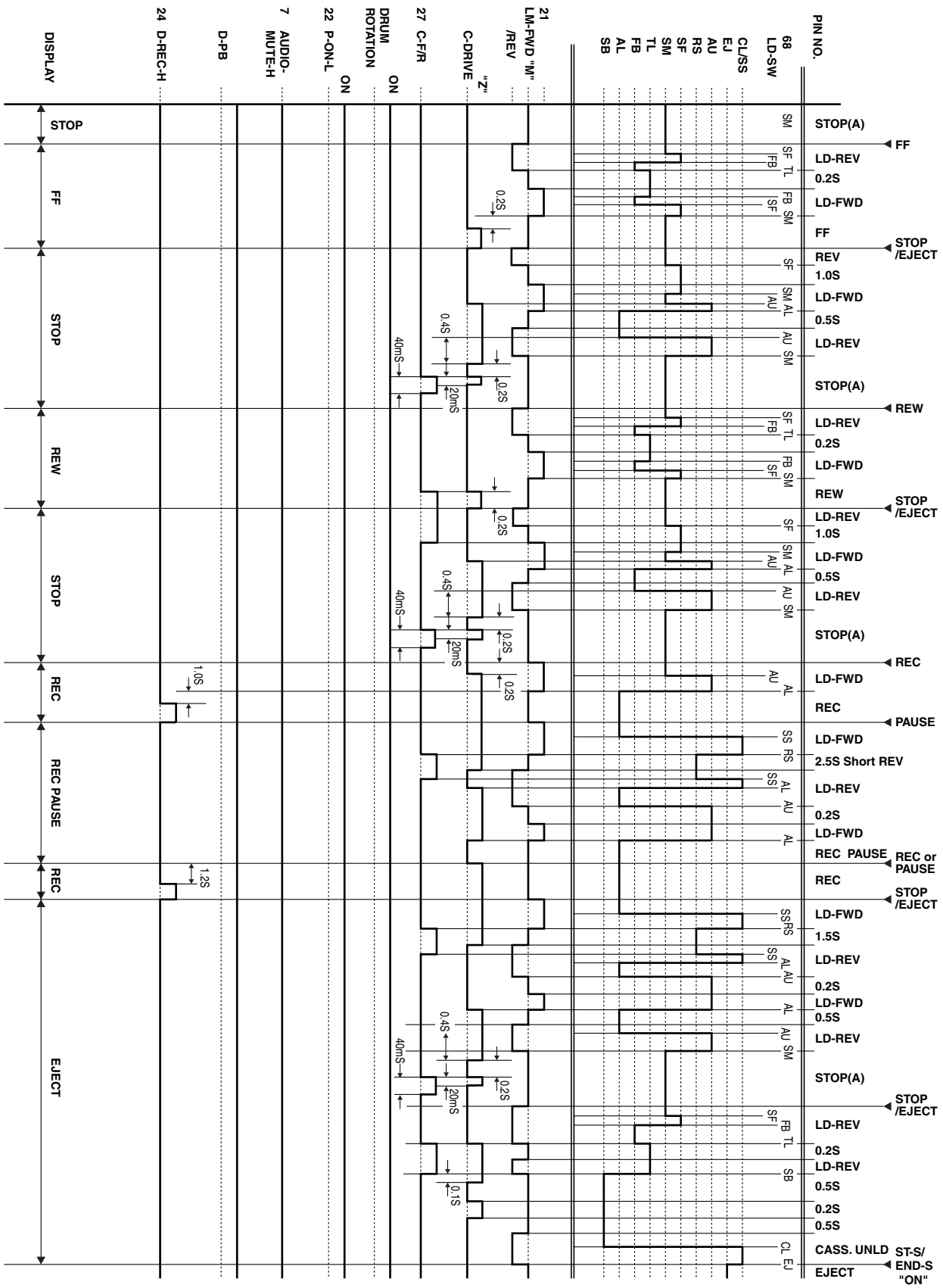
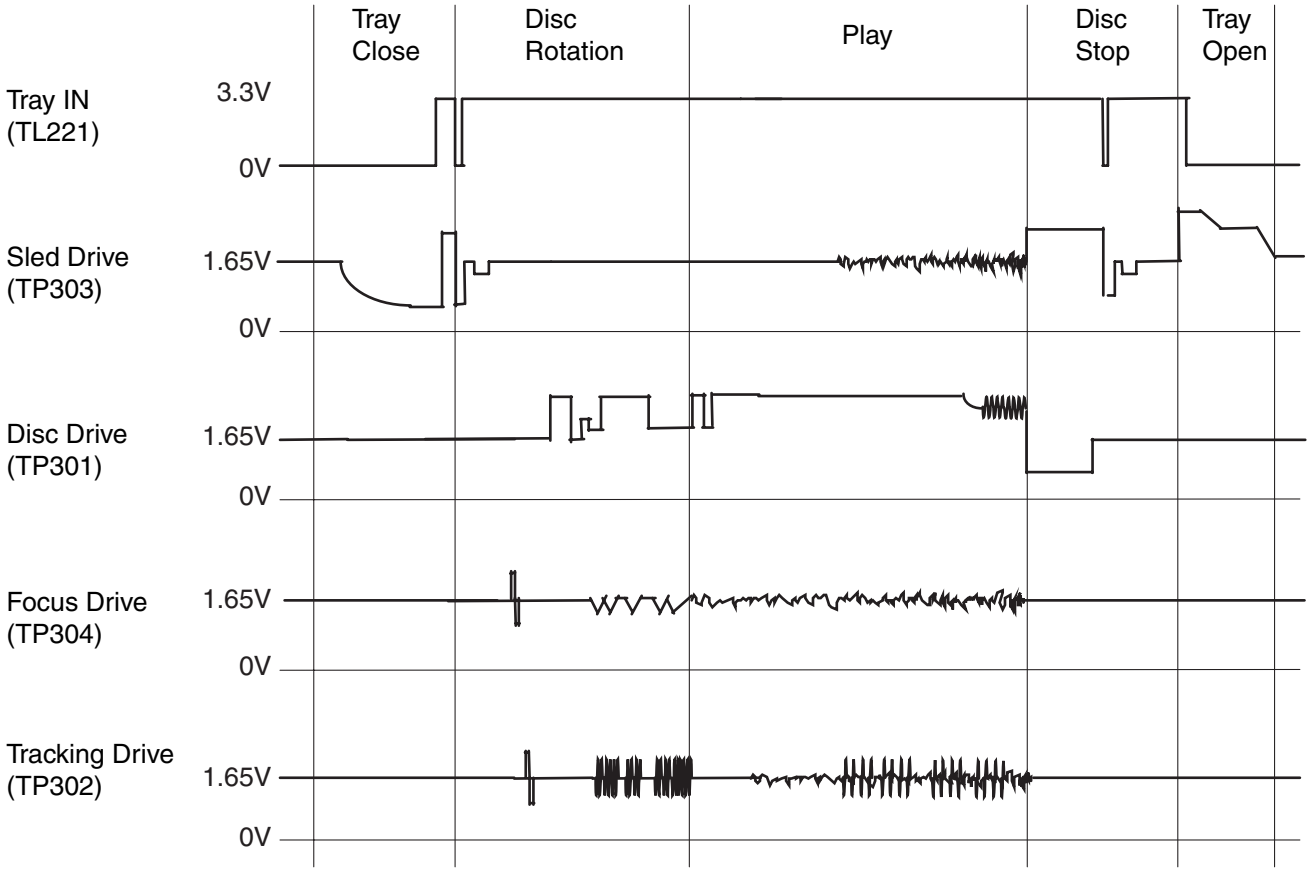

2. STOP(A) -> FF -> STOP(A) -> REW -> STOP(A) -> REC -> PAUSE -> PAUSE or REC -> STOP(A) -> EJECT
PIN NO.
68 LD-SW
CL/SS
EJ
AU
RS
SF
SM
TL
FB
AL
SB
21 LM-FWD "M" /REV
"Z" C-DRIVE
27 C-F/R
DRUM ROTATION
22 P-ON-L
7 AUDIO-MUTE-H
D-PB
24 D-REC-H
DISPLAY
STOP
FF
STOP
REW
STOP
REC
REC PAUSE
REC
EJECT
STOP(A)
FF
LD-REV
0.2S
LD-FWD
FF
STOP /EJECT
REV
1.0S
LD-FWD
0.5S
LD-REV
STOP(A)
REW
LD-REV
0.2S
LD-FWD
REW
STOP /EJECT
LD-REV
1.0S
LD-FWD
0.5S
LD-REV
STOP(A)
REC
LD-FWD
REC
PAUSE
LD-FWD
2.5S Short REV
LD-REV
0.2S
LD-FWD
REC PAUSE
REC or PAUSE
REC
STOP /EJECT
LD-FWD
1.5S
LD-REV
0.2S
LD-FWD
0.5S
LD-REV
STOP(A)
STOP /EJECT
LD-REV
0.2S
LD-REV
0.5S
0.2S
0.5S
CASS. UNLD
EJECT
ST-S/ END-S "ON"
0.2S
0.4S
40mS
20mS
1.0S
1.2S
0.1S

Fig. 4

< DVD Section >

Tray Close ~ Play / Play ~ Tray Open



IC PIN FUNCTION DESCRIPTIONS

< VCR Section >

Comparison Chart of Models and Marks

Model	Mark
DV225SL8	A
DV220SL8	B

IC501 (SERVO/SYSTEM CONTROL/OSD)

"H" ≥ 4.5 V, "L" ≤ 1.0 V

Pin No.	Mark	IN/ OUT	Signal Name	Function	Active Level
1		IN	P-DOWN -H	Power Voltage Down Detector Signal	H
2		IN	REC-SAF-SW	Recording Safety SW Detect (With Record tab = "L" / With out Record tab = "H")	H/L
3		IN	T-REEL	Take Up Reel Rotation Signal	PULSE
4		IN	REMOTE-DVD	Remote Control Sensor	L
5		IN	REMOTE-VIDEO	Remote Control Sensor	L
6		-	NU	Not Used	-
7		OUT	AUDIO-MUTE-H	Audio Mute Control Signal (Mute = "H")	H
8		-	NU	Not Used	-
9		-	NU	Not Used	-
10		OUT	POWER-LED	POWER LED Signal Output	H/L
11		OUT	POWER-LED	POWER LED Signal Output	H/L
12	A	IN/ OUT	IIC-BUS-SDA	IIC BUS Control Data	H/L
	B	-	NU	Not Used	-
13	A	OUT	IIC-BUS-SCL	IIC BUS Control Clock	H/L
	B	-	NU	Not Used	-
14		OUT	YCA-SCL	YCA IC Control Clock	H/L
15		OUT	YCA-SDA	YCA IC Control Data	H/L
16		OUT	YCA-CS	YCA IC Control Chip Select	H
17		-	NU	Not Used	-
18		OUT	RF-SW	Video Head Switching Pulse	H/L
19		OUT	D-V SYNC	Dummy V-sync Output	H/Hi-z
20		-	NU	Not Used	-
21		OUT	LM-FWD/ REV	Loading Motor FWD/ REV Output	H/Z/L
22		OUT	P-ON-L	Power On Signal to Low	L
23		-	NU	Not Used	-
24		OUT	D-REC-H	Delayed Record Signal	H
25	A	OUT	HiFi-H-SW	HiFi Audio Head Switching Pulse	H/L
	B	-	NU	Not Used	-
26		OUT	DVD-POWER	DVD Power Control Signal	H
27		OUT	C-F/R	Capstan Motor FWD/REV Control Signal (FWD = "L" / REV = "H")	H/L
28		OUT	C-CONT	Capstan Motor Control Signal	PWM
29		OUT	D-CONT	Drum Motor Control Signal	PWM
30		-	NU	Not Used	-
31		-	VDD	VDD	-
32		OUT	OSCO	Main Clock Output 14.31818MHz	-
33		IN	OSCI	Main Clock Input 14.31818MHz	-
34		-	VSS	VSS	
35		IN	XI	Sub Clock Input 32.768 MHz	-
36		OUT	XO	Sub Clock Output 32.768 MHz	-
37		IN	SXI	Operation Mode Selecting Input Signal	-

Pin No.	Mark	IN/ OUT	Signal Name	Function	Active Level
38		OUT	VIDEO-OUT	Composite Video Signal Output	-
39		-	Vss2	Vss2	-
40		IN	VIDEO-IN	Composite Video Signal Input	-
41		IN	C-SYNC	Composite Synchronized Pulse	PULSE
42		-	VDD2	VDD2	-
43		IN	AFCC	Low Path Filter Input Signal For AFC	-
44		OUT	AFCLPF	Low Path Filter Output Signal For AFC	-
45		OUT	OUTPUT-SELECT(2)	Output Select	H/L
46		OUT	OUTPUT-SELECT(1)	Output Select	H/L
47		IN	D-PFG	Drum PG/FG Input Signal	PULSE
48		IN	POWER-SAFETY	P-ON Power Supply Abnormal Detection Input	L
49		IN	C-FG	Capstan Motor Rotation Detection Pulse	PULSE
50		-	AFG	GND	-
51		OUT	VRO	Servo Standard Voltage Output	-
52		IN	VRI	Servo Standard Voltage Input	-
53		-	AVss	AVSS	-
54		IN	CTLA	CTL Amp. AC GND	-
55		-	AVDD	AVDD	-
56		IN/ OUT	CTL (+)	Playback/ Record Control Signal (+)	-
57		IN/ OUT	CTL (-)	Playback/ Record Control Signal (-)	-
58		OUT	CTL	Amp. Output Control Signal for Test Point	-

Pin No.	Mark	IN/ OUT	Signal Name	Function	Active Level
59	A	IN	HiFi/NOR-IN	Audio Mode Input (HiFi = “L” / Normal = “H”)	A/D
	B	-	NU	Not Used	-
60		IN	DVD-POW-MONITOR	DVD Power Monitor Signal (P-off = “L”, P-on = “H”)	H/L
61		-	NU	Not Used	-
62		IN	END-S	Tape End Position Detect Signal	A/D
63		IN	AFC	Automatic Frequency Control Signal	A/D
64		IN	V-ENV	Video Envelope Comparator Signal	A/D
65		IN	PG-DELAY	Video Head Switching Pulse Signal Adjusted Voltage	A/D
66		IN	KEY-2	A/D Key Data Signal 2	A/D
67		IN	KEY-1	A/D Key Data Signal 1	A/D
68		IN	LD-SW	Deck Mode Position Detector Signal	A/D
69		IN	ST-S	Tape Start Position Detector Signal	A/D
70		OUT	VCR-LED-L	VCR Mode LED Signal Output	L
71		OUT	VCR-LED-L	VCR Mode LED Signal Output	L
72		OUT	DVD-LED-L	DVD Mode LED Signal Output	L
73		OUT	DVD-LED-L	DVD Mode LED Signal Output	L
74		OUT	REC-LED-L	REC Mode LED Signal Output	L
75		OUT	REC-LED-L	REC Mode LED Signal Output	L

Pin No.	Mark	IN/ OUT	Signal Name	Function	Active Level
76		OUT	TIMER-LED-L	TIMER Mode LED Signal Output	L
77		OUT	TIMER-LED-L	TIMER Mode LED Signal Output	L
78		OUT	C-ROTA	Color Phase Rotary Changeover Signal	H/L
79		OUT	H-A-SW	Video Head Amp Switching Pulse	H/L
80		IN	H-A-COMP	Head Amp Comparator Signal	H/L

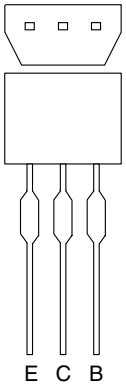
Notes:

Abbreviation for Active Level:

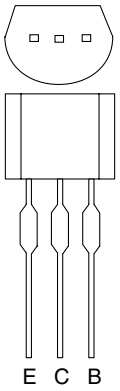
PWM ----- Pulse Wide Modulation

A/D -------- Analog - Digital Converter

LEAD IDENTIFICATIONS

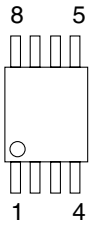


KRA103M-AT/P
KRC103M-AT/P
KTA-1266-GR-AT/P
KTA1267-Y-AT/P
KTC3193-Y-AT/P
KTC3199-(Y,BL)-AT/P

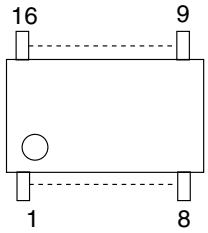


2SC1815-Y(TE2 F T)
KTC3198-Y-AT/P
KTC3203-Y-AT/P
2SC2001-T-A-K

KIA4558P/P



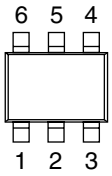
MM1637XVBE



PS2561A-1(W)

1: Anode
2: Cathode
3: Emitter
4: Collector

SOT-26A



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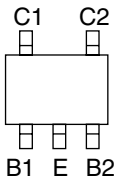

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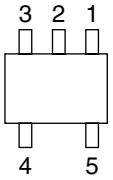
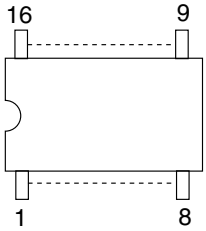


1: VREF
2: GND
3: VC
4: VIN
5: VOUT

CD4053BNSR



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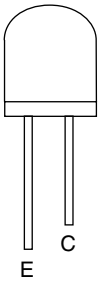

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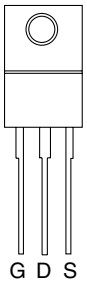
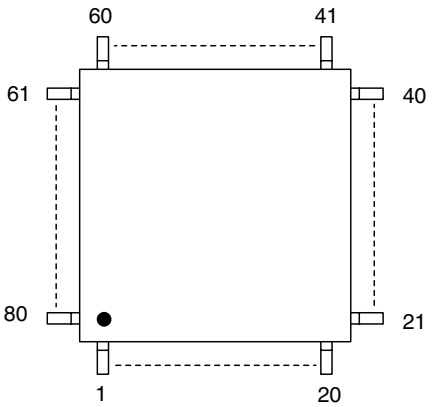


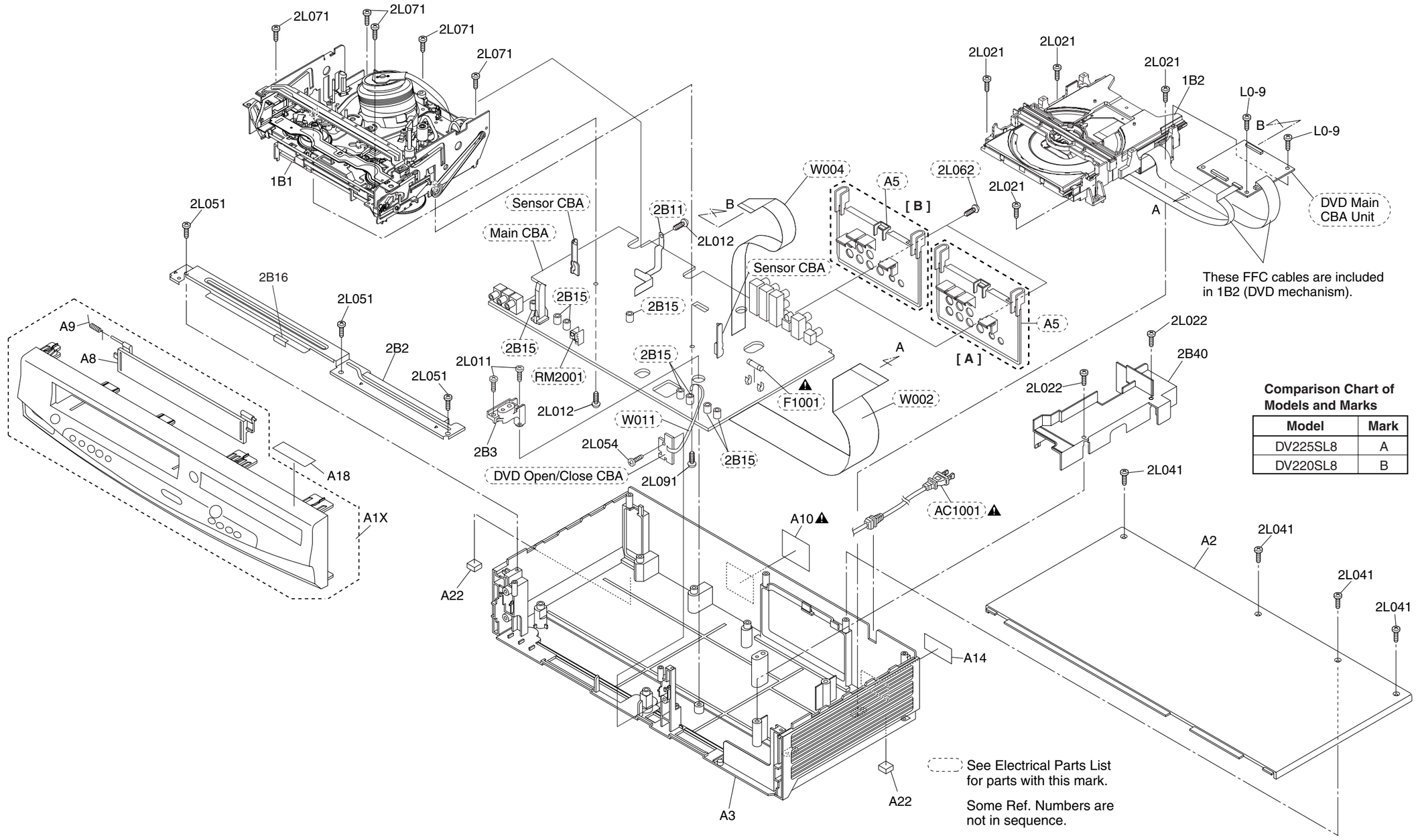
LA71205M-MPB-E
LA72670BM-MPB-E
MN101D08DYA



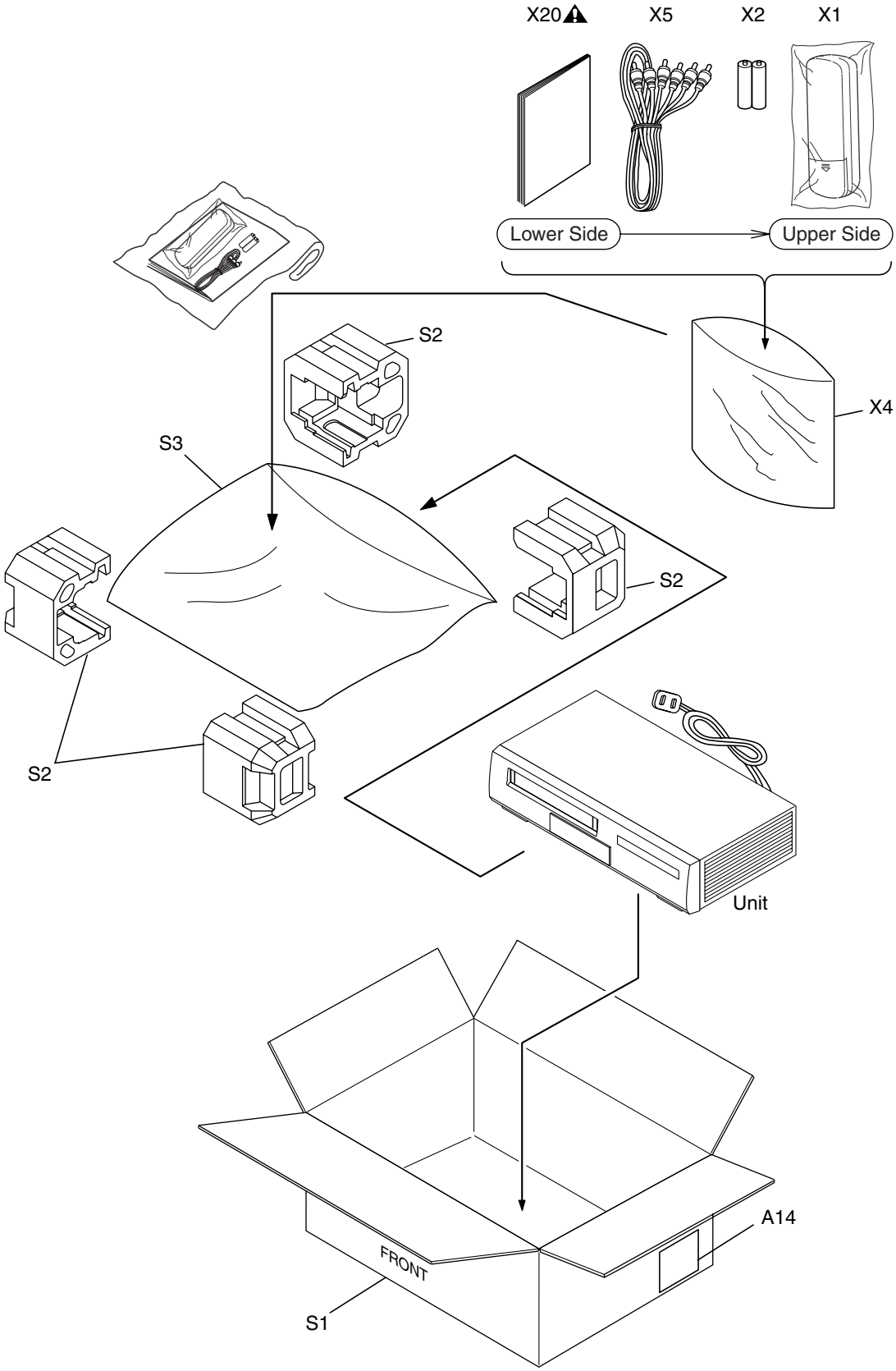
Note:
A: Anode
K: Cathode
E: Emitter
C: Collector
B: Base
R: Reference
S: Source
G: Gate
D: Drain

EXPLODED VIEWS

Cabinet



Packing


X20⚠
X5
X2
X1
Lower Side
Upper Side
S2
X4
S3
S2
S2
Unit
A14
FRONT
S1

MECHANICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

NOTE: Parts that are not assigned part numbers (---------) are not available.

Comparison Chart of Models and Marks

Model	Mark
DV225SL8	A
DV220SL8	B

Ref. No.	Mark	Description	Part No.
A1X	A	FRONT ASSEMBLY E8C0AUD	1VM222800
A1X	B	FRONT ASSEMBLY E8E01UD	1VM222864
A2		TOP CASE H9600UD	0VM101340
A3		CHASSIS E8C0AUD	1VM222739
A8	A	DOOR CASSETTE H9600UD	0VM306647
A8	B	DOOR CASSETTE H9601UD	0VM416215
A9		DOOR SPRING HF410UD	1VM421240
A10⚠	A	RATING LABEL(U) E8E00UD	----------
A10⚠	B	RATING LABEL(U) E8E01UD	----------
A14		LABEL BAR CODE HB400UD	----------
A18		LABEL TELEPHONE NUMBER H5730UD(SYLVANIA)	----------
A22		CHASSIS FOOT H79P9JD	0VM412315
1B1	A	DECK ASSEMBLY CZD014/VM2460	N2460FL
1B1	B	DECK ASSEMBLY CZD014/VM2440	N2440FL
1B2		DVD MECHA E7 N79F0KVM	N79F0KVM
2B2		TOP BRACKET H9600UD	0VM204470
2B3		LOADER HOLDER H9600UD	0VM306676
2B16		TAPE HIMELON H9206JD	0VM413956
2B40		PARTITION PLATE E8A00UD	1VM321985
2L011		SCREW P-TIGHT M3X8 BIND HEAD+	GBJP3080
2L012		SCREW S-TIGHT M3X6 BIND HEAD+	GBJS3060
2L021		SCREW P-TIGHT M3*12 BIND+	GBJP3120
2L022		SCREW P-TIGHT M3X8 BIND HEAD+	GBJP3080
2L041		SCREW P-TIGHT 3X10 BIND HEAD+	GBHP3100
2L051		SCREW P-TIGHT M3X6 BIND HEAD+	GBJP3060
2L054		SCREW P-TIGHT M3X6 BIND HEAD+	GBJP3060
2L071		SCREW P-TIGHT M3*10 WASHERHEAD+	GCJP3100
2L091		SCREW P-TIGHT M3X8 BIND HEAD+	GBCP3080
L0-9		SCREW P-TIGHT M3X8 BIND HEAD+	GBJP3080
PACKING			
S1	A	GIFT BOX CARTON E8E00UD	1VM323606
S1	B	GIFT BOX CARTON E8E01UD	1VM323609
S2		STYROFOAM H9600UD	0VM204474E
S3		UNIT BAG E5500UD	0VM411683
ACCESSORIES			
X1		REMOTE CONTROL UNIT NB606UD	NB606UD
X2		DRY BATTERY R6P/2S	XB0M451T0001
X4		ACCESSORY BAG E5700UD	0VM415576
X5		AV CORD 1000/BLACK	WPZ0102TM018
X20⚠	A	OWNERS MANUAL E8E00UD	1VMN23383
X20⚠	B	OWNERS MANUAL E8E01UD	1VMN23384

ELECTRICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

NOTES:

1. Parts that are not assigned part numbers (---------) are not available.
2. Tolerance of Capacitors and Resistors are noted with the following symbols.

C.....±0.25% D.....±0.5% F.....±1%

G.....±2% J.....±5% K.....±10%

M.....±20% N.....±30% Z.....+80/-20%

Comparison Chart of Models and Marks

Model	Mark
DV225SL8	A
DV220SL8	B

DVD MAIN CBA UNIT

Ref. No.	Mark	Description	Part No.
		DVD MAIN CBA UNIT	N7CFJKUP

MCV CBA

Ref. No.	Mark	Description	Part No.
	A B	MCV CBA MCV CBA Consists of the following:	1VSA15415 1VSA15423
		MAIN CBA (MCV-A) DVD OPEN/CLOSE CBA (MCV-C) SENSOR CBA	---------- ---------- 1VSA13493

MAIN CBA

Ref. No.	Mark	Description	Part No.
		MAIN CBA (MCV-A) Consists of the following:	----------
		CAPACITORS	
C013		ELECTROLYTIC CAP. 10μF/50V M H7	CE1JMASSL100
C018		ELECTROLYTIC CAP. 470μF/16V M	CE1CMASDL471
C020		ELECTROLYTIC CAP. 1000μF/10V M	CE1AMASDL102
C021		ELECTROLYTIC CAP. 470μF/6.3V M	CE0KMASDL471
C023		ELECTROLYTIC CAP. 100μF/16V M	CE1CMASDL101
C030		CERAMIC CAP.(AX) B K 0.068μF/50V	CA1J683TU011
C051		ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C053		ELECTROLYTIC CAP. 220μF/6.3V M	CE0KMASDL221
C301		ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C302		CHIP CERAMIC CAP. CH J 390pF/50V	CHD1JJBCH391
C303		CHIP RES.(1608) 1/10W 0 Ω	RRXAZB5Z0000
C304		CHIP CERAMIC CAP. CH J 100pF/50V	CHD1JJBCH101
C305		CHIP CERAMIC CAP. CH J 100pF/50V	CHD1JJBCH101
C307		CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZB0F105
C308		ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C309		CHIP CERAMIC CAP. F Z 0.1μF/50V	CHD1JZB0F104
C310		ELECTROLYTIC CAP. 22μF/6.3V M H7	CE0KMAVSL220
C311		ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMASSL1R0
C312		CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZB0F105
C313		ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMASSL1R0
C314		CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZB0F105
C315		CHIP CERAMIC CAP. B K 0.1μF/25V	CHD1EKB0B104
C316		CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZB0F105
C317		CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZB0F105
C318		ELECTROLYTIC CAP. 22μF/6.3V M H7	CE0KMAVSL220
C319		CHIP CERAMIC CAP. B K 0.01μF/50V	CHD1JKB0B103
C321	A	CHIP CERAMIC CAP. B K 0.01μF/50V	CHD1JKB0B103
C322	A	CHIP CERAMIC CAP. CH J 68pF/50V	CHD1JJBCH680
C324		CHIP CERAMIC CAP. B K 0.01μF/50V	CHD1JKB0B103
C327		ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C328		ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C329		CHIP CERAMIC CAP. B K 0.01μF/50V	CHD1JKB0B103
C330		ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C331		CHIP CERAMIC CAP. B K 0.01μF/50V	CHD1JKB0B103
C332		ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C333		CHIP CERAMIC CAP. F Z 0.1μF/50V	CHD1JZB0F104
C336		CHIP CERAMIC CAP. B K 0.01μF/50V	CHD1JKB0B103
C339		CHIP CERAMIC CAP. B K 0.047μF/50V	CHD1JKB0B473
C340		CHIP CERAMIC CAP. B K 0.1μF/25V	CHD1EKB0B104
C341		CHIP CERAMIC CAP. B K 0.047μF/50V	CHD1JKB0B473
C342		CHIP CERAMIC CAP. F Z 0.1μF/50V	CHD1JZB0F104
C343		ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C346		CHIP CERAMIC CAP. B K 0.1μF/25V	CHD1EKB0B104
C348		CHIP CERAMIC CAP. B K 0.1μF/25V	CHD1EKB0B104
C391		ELECTROLYTIC CAP. 100μF/10V M H7	CE1AMASSL101
C392		ELECTROLYTIC CAP. 470μF/6.3V M	CE0KMASDL471
C401		CHIP CERAMIC CAP. F Z 0.1μF/50V	CHD1JZB0F104
C402	B	CHIP CERAMIC CAP. F Z 0.1μF/50V	CHD1JZB0F104
C403	B	CHIP CERAMIC CAP. F Z 0.1μF/50V	CHD1JZB0F104
C404		CHIP CERAMIC CAP. B K 0.01μF/50V	CHD1JKB0B103
C405		ELECTROLYTIC CAP. 22μF/6.3V M H7	CE0KMAVSL220
C406		ELECTROLYTIC CAP. 33μF/6.3V M H7	CE0KMAVSL330
C407		CHIP CERAMIC CAP. B K 0.01μF/50V	CHD1JKB0B103
C408		CHIP CERAMIC CAP. B K 0.012μF/50V	CHD1JKB0B123
C409		ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C410		CHIP CERAMIC CAP. B K 2700pF/50V	CHD1JKB0B272
C411		CHIP CERAMIC CAP. B K 1000pF/50V	CHD1JKB0B102
C412		ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C413		CHIP CERAMIC CAP. B K 6800pF/50V	CHD1JKB0B682
C414		CHIP CERAMIC CAP. B K 1000pF/50V	CHD1JKB0B102
C422		ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C423		ELECTROLYTIC CAP. 220μF/6.3V M H7	CE0KMAVSL221
C424		CERAMIC CAP. B K 470pF/100V	CCD2AKP0B471
C425		FILM CAP.(P) 0.018μF/100V J	CA2A183MS029
C430		CHIP CERAMIC CAP. CH J 56pF/50V	CHD1JJBCH560
C431	A	CHIP CERAMIC CAP. CH J 100pF/50V	CHD1JJBCH101
C448	A	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7
C449	A	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7
C451	A	ELECTROLYTIC CAP. 47μF/16V M H7	CE1CMAVSL470
C452	A	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C453	A	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C454	A	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C455	A	ELECTROLYTIC CAP. 22μF/6.3V M H7	CE0KMAVSL220
C456	A	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C457	A	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C458	A	CHIP CERAMIC CAP. B K 0.01μF/50V	CHD1JKB0B103

Ref. No.	Mark	Description	Part No.
C459	A	ELECTROLYTIC CAP. 22μF/6.3V M H7	CE0KMAVSL220
C460	A	CHIP CERAMIC CAP. B K 4700pF/50V	CHD1JKB0B472
C461	A	CHIP CERAMIC CAP. B K 0.01μF/50V	CHD1JKB0B103
C462	A	CHIP CERAMIC CAP. B K 0.01μF/50V	CHD1JKB0B103
C463	A	CHIP CERAMIC CAP. B K 0.1μF/25V	CHD1EKB0B104
C465	A	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C466	A	ELECTROLYTIC CAP. 220μF/6.3V M H7	CE0KMAVSL221
C467	A	CHIP CERAMIC CAP. B K 0.022μF/50V	CHD1JKB0B223
C469	A	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C470	A	CERAMIC CAP.(AX) F Z 0.1μF/50V	CCA1JZTFZ104
C471	A	ELECTROLYTIC CAP. 22μF/6.3V M H7	CE0KMAVSL220
C472	A	CHIP CERAMIC CAP. B K 4700pF/50V	CHD1JKB0B472
C473	A	CHIP CERAMIC CAP. B K 0.01μF/50V	CHD1JKB0B103
C474	A	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C475	A	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C476	A	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C485	A	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C502		ELECTROLYTIC CAP. 220μF/6.3V M H7	CE0KMAVSL221
C505		ELECTROLYTIC CAP. 22μF/10V M H7	CE1AMAVSL220
C507		ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C508		CHIP CERAMIC CAP. B K 0.033μF/50V	CHD1JKB0B333
C509		ELECTROLYTIC CAP. 220μF/6.3V M H7	CE0KMAVSL221
C513		CHIP CERAMIC CAP. CH D 10pF/50V	CHD1JDBCH100
C514		CHIP CERAMIC CAP. CH J 22pF/50V	CHD1JJBCH220
C515		CHIP CERAMIC CAP. CH J 18pF/50V	CHD1JJBCH180
C521		ELECTROLYTIC CAP. 47μF/25V M H7	CE1EMAVSL470
C522		CHIP CERAMIC CAP. B K 4700pF/50V	CHD1JKB0B472
C523		CHIP CERAMIC CAP. CH J 100pF/50V	CHD1JJBCH101
C525		CHIP CERAMIC CAP. B K 4700pF/50V	CHD1JKB0B472
C527		CHIP CERAMIC CAP. B K 0.047μF/50V	CHD1JKB0B473
C529		CHIP CERAMIC CAP. B K 0.022μF/50V	CHD1JKB0B223
C530		ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C531		ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C532		ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C533		ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C534		CHIP CERAMIC CAP. B K 0.1μF/25V	CHD1EKB0B104
C535		ELECTROLYTIC CAP. 22μF/10V M H7	CE1AMAVSL220
C536		CHIP CERAMIC CAP. B K 1000pF/50V	CHD1JKB0B102
C537		CHIP CERAMIC CAP. B K 1000pF/50V	CHD1JKB0B102
C540		CHIP CERAMIC CAP. B K 0.01μF/50V	CHD1JKB0B103
C541		CHIP CERAMIC CAP. F Z 0.1μF/50V	CHD1JZB0F104
C544		ELECTROLYTIC CAP. 100μF/6.3V H7	CE0KMAVSL101
C560	B	CHIP CERAMIC CAP. CH J 100pF/50V	CHD1JJBCH101
C751		CHIP CERAMIC CAP. B K 2200pF/50V	CHD1JKB0B222
C752		CHIP CERAMIC CAP. B K 2200pF/50V	CHD1JKB0B222
C753		CHIP CERAMIC CAP. B K 0.01μF/50V	CHD1JKB0B103
C757		ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C760	B	CHIP CERAMIC CAP. CH J 47pF/50V	CHD1JJBCH470
C761	A	CHIP CERAMIC CAP. CH J 47pF/50V	CHD1JJBCH470
C766		CHIP CERAMIC CAP. B K 0.01μF/50V	CHD1JKB0B103
C772		ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7
C773		ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMASSL4R7
C774		ELECTROLYTIC CAP. 47μF/25V M H7	CE1EMAVSL470
C778		ELECTROLYTIC CAP. 10μF/16V M	CE1CMASDL100
C779		ELECTROLYTIC CAP. 22μF/16V M	CE1CMASDL220
C780		ELECTROLYTIC CAP. 100μF/16V M	CE1CMASDL101
C781		ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMASSL4R7
C782		ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMASSL4R7
C1001⚠		ACROSS THE LINE CAP. 0.068μF/250V	CT2E683DC016
C1002		ELECTROLYTIC CAP. 22μF/50V M	CE1JMASDL220
C1003		CERAMIC CAP. B K 0.01μF/500V	CCD2JKP0B103
C1004		ELECTROLYTIC CAP. 220μF/200V M	CA2D221S6008
C1005		CERAMIC CAP. B K 120pF/500V	CCD2JKP0B121
C1006⚠		SAFETY CAP. 3300pF/250V	CCG2EMA0F332
C1007		ELECTROLYTIC CAP. 1000μF/6.3V M	CE0KMASDL102
C1008		CERAMIC CAP. B K 120pF/500V	CCD2JKP0B121
C1013		CERAMIC CAP.(AX) B K 1000pF/50V	CCA1JKT0B102
C1014		ELECTROLYTIC CAP. 470μF/6.3V M	CE0KMASDL471
C1015		ELECTROLYTIC CAP. 220μF/6.3V M H7	CE0KMAVSL221
C1023		CERAMIC CAP. B K 470pF/500V	CCD2JKS0B471
C1029		CERAMIC CAP.(AX) X K 2700pF/16V	CCA1CKT0X272
C1030		CERAMIC CAP.(AX) B K 0.1μF/25V	CCA1EKT0B104
C1031		CERAMIC CAP.(AX) B K 0.1μF/25V	CCA1EKT0B104
C1032		ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C1033		CERAMIC CAP. YV Z 0.022μF/50V	CCD1JZSYV223
C1038		ELECTROLYTIC CAP. 470μF/6.3V M	CE0KMASDL471
C1039		CERAMIC CAP.(AX) B K 0.1μF/25V	CCA1EKT0B104
C1040		ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASDL101
C1042		ELECTROLYTIC CAP. 100μF/6.3V M H7	CE0KMASSL101
C1051		CERAMIC CAP.(AX) B K 0.1μF/25V	CCA1EKT0B104
C1052		CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZB0F105
C1053		CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZB0F105
C1054		CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZB0F105
C1070		CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZB0F105
C1082		ELECTROLYTIC CAP. 220μF/16V M H7	CE1CMASSL221
C1201		ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C1202		ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMASSL100
C1207		CHIP CERAMIC CAP. CH J 68pF/50V	CHD1JJBCH680
C1208		CHIP CERAMIC CAP. CH J 68pF/50V	CHD1JJBCH680
C1221		ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMASSL100
C1222		ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMASSL100
C1223		CHIP CERAMIC CAP. B K 1000pF/50V	CHD1JKB0B102
C1224		CHIP CERAMIC CAP. B K 1000pF/50V	CHD1JKB0B102
C1245		CHIP CERAMIC CAP. F Z 0.1μF/50V	CHD1JZB0F104
C1246		CHIP CERAMIC CAP. F Z 0.1μF/50V	CHD1JZB0F104
C1247		ELECTROLYTIC CAP. 470μF/6.3V M	CE0KMASDL471
C1249		ELECTROLYTIC CAP. 47μF/16V M H7	CE1CMAVSL470
C1351		CHIP CERAMIC CAP. B K 0.1μF/25V	CHD1EKB0B104
C1352		ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C1354		CHIP CERAMIC CAP. CH J 100pF/50V	CHD1JJBCH101
C1355		CHIP RES.(1608) 1/10W 0 Ω	RRXAZB5Z0000
C1421		CHIP CERAMIC CAP. B K 0.01μF/50V	CHD1JKB0B103
C1422		CHIP CERAMIC CAP. B K 0.1μF/25V	CHD1EKB0B104
C1441		CHIP CERAMIC CAP. B K 0.33μF/10V	CHD1AKB0B334
C1442		ELECTROLYTIC CAP. 1000μF/6.3V M	CE0KMASDL102
C1461		ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C1462		ELECTROLYTIC CAP. 220μF/6.3V M	CE0KMASDL221
C1481		ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C1482		ELECTROLYTIC CAP. 220μF/6.3V M	CE0KMASDL221
C1523		CHIP CERAMIC CAP. F Z 0.1μF/50V	CHD1JZB0F104
C1524		ELECTROLYTIC CAP. 100μF/6.3V H7	CE0KMAVSL101
C1531		CHIP CERAMIC CAP. B K 0.01μF/50V	CHD1JKB0B103
C1532		ELECTROLYTIC CAP. 22μF/6.3V M H7	CE0KMAVSL220
C2002		CHIP CERAMIC CAP. B K 1000pF/50V	CHD1JKB0B102
C2004		ELECTROLYTIC CAP. 100μF/6.3V H7	CE0KMAVSL101
C2012		CHIP CERAMIC CAP. F Z 0.1μF/50V	CHD1JZB0F104
DIODES			
D013		RECTIFIER DIODE BA158	NDQZ000BA158
D015		SCHOTTKY BARRIER DIODE SB390	NDQZ000SB390
D016		SCHOTTKY BARRIER DIODE SB240-B/P	NDQZ000SB240
D019		PCB JUMPER D0.6-P5.0	JW5.0T
D031		ZENER DIODE MTZJT-7716B	QDTB00MTZJ16
D035		ZENER DIODE MTZJT-776.8B	QDTB0MTZJ6R8
D040		ZENER DIODE MTZJT-776.8B	QDTB0MTZJ6R8
D052		ZENER DIODE MTZJT-7710B	QDTB00MTZJ10

Ref. No.	Mark	Description	Part No.
D062		ZENER DIODE MTZJT-774.3C	QDTC0MTZJ4R3
D063		RECTIFIER DIODE 1N4005	NDQZ001N4005
D080		RECTIFIER DIODE 1N4005	NDQZ001N4005
D082		RECTIFIER DIODE 1N4005	NDQZ001N4005
D504		ZENER DIODE MTZJT-7718B	QDTB00MTZJ18
D555		LED MIE-534A2	NPZZM1E534A2
D564		LED(RED) 204HD/E	NPQZ00204HDE
D565		LED(RED) 204HD/E	NPQZ00204HDE
D566		LED(GREEN) 204-10GD/S957	NPQZ10GDS957
D567		LED(GREEN) 204-10GD/S957	NPQZ10GDS957
D571		LED(RED) 204HD/E	NPQZ00204HDE
D701		ZENER DIODE MTZJT-7733D	QDTD00MTZJ33
D777		ZENER DIODE MTZJT-775.6A	QDTA0MTZJ5R6
D1001		RECTIFIER DIODE 1N4005	NDQZ001N4005
D1002		RECTIFIER DIODE 1N4005	NDQZ001N4005
D1003		RECTIFIER DIODE 1N4005	NDQZ001N4005
D1004		RECTIFIER DIODE 1N4005	NDQZ001N4005
D1007		PCB JUMPER D0.6-P5.0	JW5.0T
D1008		SCHOTTKY BARRIER DIODE SB140	NDQZ000SB140
D1010		RECTIFIER DIODE BA158	NDQZ000BA158
D1011		RECTIFIER DIODE BA158	NDQZ000BA158
D1012		SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1018		SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1020		SCHOTTKY BARRIER DIODE SB140	NDQZ000SB140
D1021		PCB JUMPER D0.6-P5.0	JW5.0T
D1022		SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1024		SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1025		SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1036		RECTIFIER DIODE 1N4005	NDQZ001N4005
D1037		RECTIFIER DIODE 1N4005	NDQZ001N4005
D1038		RECTIFIER DIODE 1N4005	NDQZ001N4005
D1058		RECTIFIER DIODE 1N4005	NDQZ001N4005
D2001		LED(GREEN) 204-10GD/S957	NPQZ10GDS957
D2002		LED(GREEN) 204-10GD/S957	NPQZ10GDS957
D2003		SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
ICS			
IC301		IC Y/C/A LA71205M-MPB-E	QSZBA0RSY037
IC451	A	IC HIFI LA72670BM-MPB-E	QSZBA0RSY039
IC501		IC SYSCON MN101D08DYG	QSZAA0RMS072
IC751		IC ANALOG MULTIPLEXER CD4053BNSR	NSZBA0TTY093
IC752		IC ANALOG MULTIPLEXER CD4053BNSR	NSZBA0TTY093
IC771		IC 75 Ω DRIVER SOT-26A	QSZBA0TMM169
IC1001 ⚠		PHOTOCOUPLER PS2561A-1(W)	QPEWPS2561A1
IC1002		VOLTAGE REGULATOR PQ1LAX95MSPQ	QSZBA0TSH053
IC1004		VOLTAGE REGULATOR PQ1LAX95MSPQ	QSZBA0TSH053
IC1201		IC OP AMP KIA4558P/P	NSZBA0SJY035
IC1402		DRIVER FOR DVD MM1637XVBE	QSZBA0TMM102
COILS			
L009		RADIAL TYPE CHOKE COIL CW68-470K-841040NP	LLBD00PKV023
L251		PCB JUMPER D0.6-P5.0	JW5.0T
L303		INDUCTOR(100μH K) LAP02TA101K	LLAXKATTU101
L304		RADIAL TYPE CHOKE COIL CW68-470K-841040NP	LLBD00PKV023
L305		CHIP RES.(1608) 1/10W 0 Ω	RRXAZB5Z0000
L306		CHIP RES.(1608) 1/10W 0 Ω	RRXAZB5Z0000
L400		INDUCTOR 22μH-K-26T	LLAXKATTU220
L421		INDUCTOR 47μH-K-5FT	LLARKBSTU470
L451	A	PCB JUMPER D0.6-P5.0	JW5.0T

Ref. No.	Mark	Description	Part No.
L502		RADIAL TYPE CHOKE COIL CW68-470K-841040NP	LLBD00PKV023
L503		INDUCTOR 12μH-K-26T	LLAXKATTU120
L504		PCB JUMPER D0.6-P5.0	JW5.0T
L771		PCB JUMPER D0.6-P5.0	JW5.0T
L1001 ⚠		LINE FILTER 27MH TLF14CB2730R4	LLBG00ZTU034
L1004		BEAD CORE B16 RH 3.5X10X1.3	XL03010XM001
L1007		RADIAL TYPE CHOKE COIL CW68-470K-841040NP	LLBD00PKV023
L1020		RADIAL TYPE CHOKE COIL CW68-470K-841040NP	LLBD00PKV023
L1350		INDUCTOR(100μH K) LAP02TA101K	LLAXKATTU101
L1351		INDUCTOR(0.47μH K) LAP02TAR47K	LLAXKATTUR47
L1522		INDUCTOR 47μH-K-5FT	LLARKBSTU470
L2001		INDUCTOR(100μH K) LAP02TA101K	LLAXKATTU101
TRANSISTORS			
Q031		TRANSISTOR KTA1267-Y-AT/P	NQSYKTA1267P
Q052		NPN TRANSISTOR KRC103M-AT/P	NQSZKRC103MP
Q055		TRANSISTOR KTC3198-Y-AT/P	NQSYKTC3198P
Q056		TRANSISTOR KTC3203-Y-AT/P	NQSYKTC3203P
Q063		TRANSISTOR KTA1267-Y-AT/P	NQSYKTA1267P
Q064		TRANSISTOR KTC3199-Y-AT/P	NQSYKTC3199P
Q301		TRANSISTOR KTA-1266-GR-AT/P	NQS4KTA1266P
Q302		TRANSISTOR KTC3193-Y-AT/P	NQSYKTC3193P
Q303		TRANSISTOR KTC3193-Y-AT/P	NQSYKTC3193P
Q391		TRANSISTOR KTA-1266-GR-AT/P	NQS4KTA1266P
Q421		TRANSISTOR KTA-1266-GR-AT/P	NQS4KTA1266P
Q422		TRANSISTOR KTC3203-Y-AT/P	NQSYKTC3203P
Q425		RES. BUILT-IN TRANSISTOR KRA103M-AT/P	NQSZ0KRA103M
Q426		CHIP TRANSISTOR RN1511(TE85R.F)	QQ2Z0RN1511F
Q501		TRANSISTOR KTC3199-BL-AT/P	NQS5KTC3199P
Q506		PHOTO TRANSISTOR PT204-6B-12	NPWZT2046B12
Q1001 ⚠		FET 2SK3543(Q)	QFWZ2SK3543Q
Q1003		TRANSISTOR 2SC1815-Y(TE2 F T)	QQSY2SC1815F
Q1004		TRANSISTOR 2SC2001-T-A-K	QQSK2SC2001A
Q1005		TRANSISTOR KTC3199-Y-AT/P	NQSYKTC3199P
Q1006		TRANSISTOR KTA1267-Y-AT/P	NQSYKTA1267P
Q1008		TRANSISTOR KTC3199-Y-AT/P	NQSYKTC3199P
Q1011		TRANSISTOR KTC3203-Y-AT/P	NQSYKTC3203P
Q1201		TRANSISTOR KTC3199-Y-AT/P	NQSYKTC3199P
Q1202		TRANSISTOR KTC3199-Y-AT/P	NQSYKTC3199P
Q1204		TRANSISTOR KTA-1266-GR-AT/P	NQS4KTA1266P
Q1351		TRANSISTOR KTC3199-Y-AT/P	NQSYKTC3199P
Q2002		TRANSISTOR KTC3199-Y-AT/P	NQSYKTC3199P
Q2013		TRANSISTOR KTC3199-Y-AT/P	NQSYKTC3199P
RESISTORS			
R001 ⚠		GLASS GLAZE RES. 1/2W J 3.3M Ω	RXX2JZLZ0335
R031		CHIP RES. 1/10W J 1k Ω	RRXAJB5Z0102
R032		CHIP RES. 1/10W J 4.7k Ω	RRXAJB5Z0472
R034		CHIP RES. 1/10W F 2.2k Ω	RRXAFB5H2201
R039		CHIP RES. 1/10W F 4.7k Ω	RRXAFB5H4701
R041	A	CHIP RES. 1/10W J 12k Ω	RRXAJB5Z0123
R041	B	CHIP RES. 1/10W J 18k Ω	RRXAJB5Z0183
R042		CHIP RES. 1/10W J 1.8k Ω	RRXAJB5Z0182
R056		CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R057		CARBON RES. 1/4W J 150 Ω	RCX4JATZ0151
R058		CHIP RES. 1/10W J 180 Ω	RRXAJB5Z0181
R063		PCB JUMPER D0.6-P5.0	JW5.0T
R066		CARBON RES. 1/6W J 470 Ω	RCX6JATZ0471
R067		CHIP RES. 1/10W J 4.7k Ω	RRXAJB5Z0472
R068		CHIP RES. 1/10W J 4.7k Ω	RRXAJB5Z0472
R069		CHIP RES. 1/10W J 47k Ω	RRXAJB5Z0473
R073		CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103

Ref. No.	Mark	Description	Part No.
R075		CARBON RES. 1/6W J 4.7k Ω	RCX6JATZ0472
R092		CARBON RES. 1/4W J 8.2k Ω	RCX4JATZ0822
R095		CARBON RES. 1/4W J 8.2k Ω	RCX4JATZ0822
R301		CHIP RES. 1/10W J 10k Ω	RRXAJB5Z0103
R302		CHIP RES. 1/10W J 12k Ω	RRXAJB5Z0123
R304		CHIP RES. 1/10W J 1.2k Ω	RRXAJB5Z0122
R306		CHIP RES. 1/10W J 3.9M Ω	RRXAJB5Z0395
R307		CHIP RES. 1/10W J 100k Ω	RRXAJB5Z0104
R308		CHIP RES. 1/10W J 82k Ω	RRXAJB5Z0823
R309		CHIP RES. 1/10W J 2.2k Ω	RRXAJB5Z0222
R310		CHIP RES. 1/10W J 4.7k Ω	RRXAJB5Z0472
R311		CHIP RES. 1/10W J 1.8k Ω	RRXAJB5Z0182
R312		CHIP RES. 1/10W J 1.8k Ω	RRXAJB5Z0182
R313		CHIP RES. 1/10W J 1.8k Ω	RRXAJB5Z0182
R314		CHIP RES. 1/10W J 680k Ω	RRXAJB5Z0684
R315		CHIP RES.(1608) 1/10W 0 Ω	RRXAZB5Z0000
R316		CHIP RES. 1/10W J 2.2k Ω	RRXAJB5Z0222
R317		CHIP RES. 1/10W J 8.2k Ω	RRXAJB5Z0822
R318		CHIP RES.(1608) 1/10W 0 Ω	RRXAZB5Z0000
R319		CHIP RES.(1608) 1/10W 0 Ω	RRXAZB5Z0000
R320		CHIP RES.(1608) 1/10W 0 Ω	RRXAZB5Z0000
R321		CHIP RES. 1/10W J 10k Ω	RRXAJB5Z0103
R322		CHIP RES. 1/10W J 18k Ω	RRXAJB5Z0183
R323		CHIP RES. 1/10W J 10k Ω	RRXAJB5Z0103
R324		CHIP RES. 1/10W J 18k Ω	RRXAJB5Z0183
R327		CHIP RES. 1/10W F 1.1k Ω	RRXAFB5H1101
R330	B	CHIP RES. 1/10W J 100k Ω	RRXAJB5Z0104
R391		CARBON RES. 1/4W J 680 Ω	RCX4JATZ0681
R392		CARBON RES. 1/4W J 680 Ω	RCX4JATZ0681
R397		CHIP RES. 1/10W J 100 Ω	RRXAJB5Z0101
R401	A	CHIP RES. 1/10W J 6.8k Ω	RRXAJB5Z0682
R401	B	CHIP RES. 1/10W J 27k Ω	RRXAJB5Z0273
R402	A	CHIP RES. 1/10W J 8.2k Ω	RRXAJB5Z0822
R402	B	CHIP RES. 1/10W J 4.7k Ω	RRXAJB5Z0472
R403	B	CHIP RES. 1/10W J 27k Ω	RRXAJB5Z0273
R404	B	CHIP RES. 1/10W J 4.7k Ω	RRXAJB5Z0472
R405	B	CHIP RES. 1/10W J 27k Ω	RRXAJB5Z0273
R406	B	CHIP RES. 1/10W J 4.7k Ω	RRXAJB5Z0472
R407	A	CHIP RES.(1608) 1/10W 0 Ω	RRXAZB5Z0000
R408	A	CHIP RES.(1608) 1/10W 0 Ω	RRXAZB5Z0000
R409		CHIP RES. 1/10W J 8.2k Ω	RRXAJB5Z0822
R410		CHIP RES. 1/10W J 12k Ω	RRXAJB5Z0123
R411		CHIP RES. 1/10W J 330k Ω	RRXAJB5Z0334
R412	A	CHIP RES. 1/10W J 150 Ω	RRXAJB5Z0151
R412	B	CHIP RES. 1/10W F 130 Ω	RRXAFB5H1300
R413		CHIP RES. 1/10W J 22k Ω	RRXAJB5Z0223
R414		CHIP RES. 1/10W J 910 Ω	RRXAJB5Z0911
R415		CHIP RES. 1/10W J 2.2k Ω	RRXAJB5Z0222
R416		CHIP RES. 1/10W J 10k Ω	RRXAJB5Z0103
R421		CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R422		CHIP RES. 1/10W J 22k Ω	RRXAJB5Z0223
R424		CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R425		CARBON RES. 1/6W J 100 Ω	RCX6JATZ0101
R426		CARBON RES. 1/6W J 820 Ω	RCX6JATZ0821
R451	A	CHIP RES. 1/10W J 12k Ω	RRXAJB5Z0123
R452	A	CHIP RES. 1/10W J 4.7k Ω	RRXAJB5Z0472
R453	A	CHIP RES. 1/10W J 47k Ω	RRXAJB5Z0473
R454	A	CHIP RES. 1/10W J 8.2k Ω	RRXAJB5Z0822
R455	A	CHIP RES. 1/10W J 47k Ω	RRXAJB5Z0473
R456	A	CHIP RES. 1/10W J 8.2k Ω	RRXAJB5Z0822
R457	A	CHIP RES. 1/10W J 470 Ω	RRXAJB5Z0471
R458	A	CHIP RES. 1/10W J 3.3k Ω	RRXAJB5Z0332
R459	A	CHIP RES. 1/10W J 22k Ω	RRXAJB5Z0223

Ref. No.	Mark	Description	Part No.
R463	A	CHIP RES. 1/10W J 47k Ω	RRXAJB5Z0473
R464	A	CHIP RES. 1/10W J 8.2k Ω	RRXAJB5Z0822
R465	A	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R466	A	CHIP RES. 1/10W J 8.2k Ω	RRXAJB5Z0822
R468	A	CHIP RES. 1/10W J 470 Ω	RRXAJB5Z0471
R469	A	CHIP RES. 1/10W J 1k Ω	RRXAJB5Z0102
R470	A	CHIP RES. 1/10W J 470 Ω	RRXAJB5Z0471
R470	B	CHIP RES.(1608) 1/10W 0 Ω	RRXAZB5Z0000
R471	A	CHIP RES. 1/10W J 1k Ω	RRXAJB5Z0102
R472	A	CHIP RES.(1608) 1/10W 0 Ω	RRXAZB5Z0000
R476	B	CHIP RES.(1608) 1/10W 0 Ω	RRXAZB5Z0000
R502		CHIP RES. 1/10W J 2.2k Ω	RRXAJB5Z0222
R503		CHIP RES. 1/10W J 820 Ω	RRXAJB5Z0821
R504		CHIP RES. 1/10W J 100k Ω	RRXAJB5Z0104
R506		CHIP RES. 1/10W J 100k Ω	RRXAJB5Z0104
R508		CHIP RES.(1608) 1/10W 0 Ω	RRXAZB5Z0000
R511		CHIP RES. 1/10W J 39k Ω	RRXAJB5Z0393
R512		CHIP RES. 1/10W J 100 Ω	RRXAJB5Z0101
R518		CHIP RES. 1/10W J 220k Ω	RRXAJB5Z0224
R523		CHIP RES. 1/10W J 2.2k Ω	RRXAJB5Z0222
R524		CHIP RES. 1/10W J 10k Ω	RRXAJB5Z0103
R525		CHIP RES. 1/10W J 10k Ω	RRXAJB5Z0103
R526		CHIP RES. 1/10W J 1k Ω	RRXAJB5Z0102
R527		CHIP RES. 1/10W J 1k Ω	RRXAJB5Z0102
R528		CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R531		CARBON RES. 1/6W G 4.7k Ω	RCX6GATZ0472
R532		CARBON RES. 1/6W G 1.5k Ω	RCX6GATZ0152
R533		CARBON RES. 1/6W G 22k Ω	RCX6GATZ0223
R534		CARBON RES. 1/6W G 470 Ω	RCX6GATZ0471
R535		CARBON RES. 1/6W G 10k Ω	RCX6GATZ0103
R536		CARBON RES. 1/6W G 3.6k Ω	RCX6GATZ0362
R537		CHIP RES. 1/10W J 33k Ω	RRXAJB5Z0333
R540		CHIP RES. 1/10W J 390k Ω	RRXAJB5Z0394
R541		CHIP RES. 1/10W J 390k Ω	RRXAJB5Z0394
R542		CARBON RES. 1/4W J 270 Ω	RCX4JATZ0271
R543		CHIP RES. 1/10W J 4.7k Ω	RRXAJB5Z0472
R544		CHIP RES. 1/10W J 18k Ω	RRXAJB5Z0183
R545		CHIP RES. 1/10W J 10k Ω	RRXAJB5Z0103
R546		CHIP RES. 1/10W J 10k Ω	RRXAJB5Z0103
R551		CHIP RES. 1/10W J 10k Ω	RRXAJB5Z0103
R552		CHIP RES. 1/10W J 1k Ω	RRXAJB5Z0102
R557		CHIP RES.(1608) 1/10W 0 Ω	RRXAZB5Z0000
R559		CHIP RES.(1608) 1/10W 0 Ω	RRXAZB5Z0000
R563		CHIP RES. 1/10W J 1k Ω	RRXAJB5Z0102
R566		CARBON RES. 1/4W J 150 Ω	RCX4JATZ0151
R568		CARBON RES. 1/4W J 150 Ω	RCX4JATZ0151
R573		CARBON RES. 1/4W J 120 Ω	RCX4JATZ0121
R574		CARBON RES. 1/4W J 120 Ω	RCX4JATZ0121
R578		CHIP RES.(1608) 1/10W 0 Ω	RRXAZB5Z0000
R580		CARBON RES. 1/4W J 150 Ω	RCX4JATZ0151
R583	B	CHIP RES. 1/10W J 10k Ω	RRXAJB5Z0103
R585		CHIP RES. 1/10W J 1k Ω	RRXAJB5Z0102
R586		CHIP RES. 1/10W J 1.2k Ω	RRXAJB5Z0122
R587		CHIP RES. 1/10W J 1.5k Ω	RRXAJB5Z0152
R588		CHIP RES. 1/10W J 2.2k Ω	RRXAJB5Z0222
R590		CHIP RES. 1/10W J 1k Ω	RRXAJB5Z0102
R591		CHIP RES. 1/10W J 1.2k Ω	RRXAJB5Z0122
R593		CHIP RES. 1/10W J 1.8k Ω	RRXAJB5Z0182
R594		CHIP RES. 1/10W J 1.8k Ω	RRXAJB5Z0182
R606		CHIP RES. 1/10W J 10k Ω	RRXAJB5Z0103
R607		CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R610		CHIP RES. 1/10W J 10k Ω	RRXAJB5Z0103
R612		CHIP RES. 1/10W J 10k Ω	RRXAJB5Z0103

Ref. No.	Mark	Description	Part No.
R618		CHIP RES. 1/10W J 10k Ω	RRXAJB5Z0103
R620		CHIP RES. 1/10W J 10k Ω	RRXAJB5Z0103
R702		CARBON RES. 1/4W J 1.8k Ω	RCX4JATZ0182
R752		CHIP RES. 1/10W J 75 Ω	RRXAJB5Z0750
R753		CHIP RES. 1/10W J 75 Ω	RRXAJB5Z0750
R758		CARBON RES. 1/6W J 75 Ω	RCX6JATZ0750
R773	A	CHIP RES. 1/10W J 100k Ω	RRXAJB5Z0104
R774		CARBON RES. 1/4W J 3.9k Ω	RCX4JATZ0392
R775	A	CHIP RES. 1/10W J 100k Ω	RRXAJB5Z0104
R777		CARBON RES. 1/4W J 2.7k Ω	RCX4JATZ0272
R788		PCB JUMPER D0.6-P5.0	JW5.0T
R790		CHIP RES. 1/10W J 3.3k Ω	RRXAJB5Z0332
R791		CHIP RES. 1/10W J 8.2k Ω	RRXAJB5Z0822
R1004		METAL OXIDE FILM RES. 2W J 82k Ω	RN02JZLZ0823
R1005		CARBON RES. 1/4W J 1M Ω	RCX4JATZ0105
R1006		CARBON RES. 1/4W J 1M Ω	RCX4JATZ0105
R1007		PCB JUMPER D0.6-P5.0	JW5.0T
R1008		CARBON RES. 1/6W G 1k Ω	RCX6GATZ0102
R1010		CARBON RES. 1/6W J 22k Ω	RCX6JATZ0223
R1011		METAL OXIDE FILM RES. 1W J 0.68 Ω	RN01R68ZU001
R1020		CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1025		CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R1026		CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R1029		CARBON RES. 1/6W J 150k Ω	RCX6JATZ0154
R1032		CARBON RES. 1/4W J 1.2k Ω	RCX4JATZ0122
R1034		CARBON RES. 1/4W J 680k Ω	RCX4JATZ0684
R1035		METAL OXIDE FILM RES.(STRAIGHT 2W J 1.2 Ω	RN02JZLZ01R2
R1036		CARBON RES. 1/6W J 100k Ω	RCX6JATZ0104
R1037		CHIP RES. 1/10W J 10k Ω	RRXAJB5Z0103
R1038		CARBON RES. 1/6W J 100k Ω	RCX6JATZ0104
R1039		CARBON RES. 1/6W J 470k Ω	RCX6JATZ0474
R1043		METAL OXIDE FILM RES. 1W J 2.7 Ω	RN012R7ZU001
R1044		CHIP RES. 1/10W J 220k Ω	RRXAJB5Z0224
R1059		CHIP RES. 1/10W J 10k Ω	RRXAJB5Z0103
R1068		CARBON RES. 1/4W J 390 Ω	RCX4JATZ0391
R1076		CHIP RES. 1/10W J 22k Ω	RRXAJB5Z0223
R1077		CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1085		CHIP RES. 1/10W J 100 Ω	RRXAJB5Z0101
R1086		CHIP RES. 1/10W J 2.2k Ω	RRXAJB5Z0222
R1087		CHIP RES. 1/10W J 1k Ω	RRXAJB5Z0102
R1090		CHIP RES. 1/10W J 5.6k Ω	RRXAJB5Z0562
R1091		CHIP RES. 1/10W J 3.3k Ω	RRXAJB5Z0332
R1092		CARBON RES. 1/4W J 82 Ω	RCX4JATZ0820
R1093		CARBON RES. 1/4W J 82 Ω	RCX4JATZ0820
R1205		CARBON RES. 1/6W G 12k Ω	RCX6GATZ0123
R1206		CHIP RES.(1608) 1/10W F 12k Ω	RRXAFB5Z1202
R1207		CHIP RES.(1608) 1/10W 0 Ω	RRXAZB5Z0000
R1208		CHIP RES.(1608) 1/10W 0 Ω	RRXAZB5Z0000
R1209		CHIP RES. 1/10W F 30k Ω	RRXAFB5H3002
R1210		CHIP RES. 1/10W F 30k Ω	RRXAFB5H3002
R1221		CHIP RES. 1/10W J 100k Ω	RRXAJB5Z0104
R1222		CHIP RES. 1/10W J 100k Ω	RRXAJB5Z0104
R1223		CHIP RES. 1/10W J 470 Ω	RRXAJB5Z0471
R1224		CHIP RES. 1/10W J 470 Ω	RRXAJB5Z0471
R1225		CHIP RES. 1/10W J 1k Ω	RRXAJB5Z0102
R1226		CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1238		CHIP RES.(1608) 1/10W 0 Ω	RRXAZB5Z0000
R1240		CHIP RES. 1/10W J 100k Ω	RRXAJB5Z0104
R1245		CARBON RES. 1/6W J 10 Ω	RCX6JATZ0100
R1351		CHIP RES. 1/10W J 1.8k Ω	RRXAJB5Z0182
R1352		CHIP RES. 1/10W J 2.2k Ω	RRXAJB5Z0222
R1353		CHIP RES. 1/10W J 2.2k Ω	RRXAJB5Z0222
R1354		CHIP RES. 1/10W J 220 Ω	RRXAJB5Z0221
R1355		CHIP RES. 1/10W J 75 Ω	RRXAJB5Z0750
R1356		CHIP RES. 1/10W J 100k Ω	RRXAJB5Z0104
R1395		CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1421		CHIP RES. 1/10W F 130 Ω	RRXAFB5H1300
R1422		CHIP RES. 1/10W J 75 Ω	RRXAJB5Z0750
R1441		CHIP RES. 1/10W F 130 Ω	RRXAFB5H1300
R1442		CHIP RES. 1/10W J 75 Ω	RRXAJB5Z0750
R1443		CHIP RES. 1/10W J 75 Ω	RRXAJB5Z0750
R1461		CHIP RES. 1/10W F 130 Ω	RRXAFB5H1300
R1462		CHIP RES. 1/10W J 75 Ω	RRXAJB5Z0750
R1481		CHIP RES. 1/10W F 130 Ω	RRXAFB5H1300
R1482		CHIP RES. 1/10W J 75 Ω	RRXAJB5Z0750
R1490		CHIP RES.(1608) 1/10W 0 Ω	RRXAZB5Z0000
R2001		CHIP RES. 1/10W J 10k Ω	RRXAJB5Z0103
R2002		CHIP RES. 1/10W J 10k Ω	RRXAJB5Z0103
R2003		CHIP RES. 1/10W J 10k Ω	RRXAJB5Z0103
R2005		CHIP RES. 1/10W J 6.8k Ω	RRXAJB5Z0682
R2006		CHIP RES. 1/10W J 10k Ω	RRXAJB5Z0103
R2028		CHIP RES. 1/10W J 10k Ω	RRXAJB5Z0103
R2031		CHIP RES. 1/10W J 22k Ω	RRXAJB5Z0223
R2051		CARBON RES. 1/4W J 3.9k Ω	RCX4JATZ0392
R2052		CARBON RES. 1/4W J 3.9k Ω	RCX4JATZ0392
R2053		CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R2054		CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R2055		CHIP RES. 1/10W J 10k Ω	RRXAJB5Z0103
R2056		CHIP RES. 1/10W J 10k Ω	RRXAJB5Z0103
R2086		CHIP RES. 1/10W J 5.6k Ω	RRXAJB5Z0562
SWITCHES			
SW501		TACT SWITCH KSM0614B	SST0101HH013
SW502		TACT SWITCH KSM0614B	SST0101HH013
SW505		TACT SWITCH KSM0614B	SST0101HH013
SW508		TACT SWITCH KSM0614B	SST0101HH013
SW509		TACT SWITCH KSM0614B	SST0101HH013
SW511		LEAF SWITCH MXS01830MVP0	SSC0101MCE03
SW512		ROTARY MODE SWITCH SSS-53MD	SSR0106KB003
SW513		TACT SWITCH KSM0614B	SST0101HH013
SW514		TACT SWITCH KSM0614B	SST0101HH013
SW515		TACT SWITCH KSM0614B	SST0101HH013
SW516		TACT SWITCH KSM0614B	SST0101HH013
SW2002		TACT SWITCH KSM0614B	SST0101HH013
SW2003		TACT SWITCH KSM0614B	SST0101HH013
SW2005		TACT SWITCH KSM0614B	SST0101HH013
SW2006		TACT SWITCH KSM0614B	SST0101HH013
MISCELLANEOUS			
2B11		HEAD SHIELD H9600UD	0VM306770
2B15		BUSH LED(F) H3700UD	0VM409508
2L062		SCREW B-TIGHT M3X8 BIND HEAD+	GBHB3080
A5	A	JACK BOARD(RCA) H9600UD	0VM204468
A5	B	JACK COVER(RCA) H9601UD	0VM204469
AC1001 ⚠		AC CORD W/O A GND WIRE UL/CSA 1770 BLACK	WAC0172LTE17
F1001 ⚠		FUSE TIME RAG SIC 1A 250V UC PSE	PEG20C0W3002
FH1001		FUSE HOLDER MSF-015 LF (B110)	XH01Z00LY002
FH1002		FUSE HOLDER MSF-015 LF (B110)	XH01Z00LY002
JC11	B	CHIP RES.(1608) 1/10W 0 Ω	RRXAZB5Z0000
JC761		CHIP RES.(1608) 1/10W 0 Ω	RRXAZB5Z0000
JC762		CHIP RES.(1608) 1/10W 0 Ω	RRXAZB5Z0000
JC786		CHIP RES.(1608) 1/10W 0 Ω	RRXAZB5Z0000
JK751		RCA JACK MSP-283V-B-324NILF01	JXRL040LY141
JK752	A	RCA JACK MSP-293V3-324NILF(B1	JYRL060LY031
JK752	B	RCA JACK MSP-282V-14 NI FE LF	JXRL030LY137
JK753		RCA JACK MSP-281V42-B(B110)	JXRL010LY142

Ref. No.	Mark	Description	Part No.
JK754	A	RCA JACK MSP-281V40-B(B110)	JXRL010LY138
JK755	A	RCA JACK 1P MSP-281V31-A(B110)	JYRL010LY027
JK755	B	RCA JACK MSP-281V40-B(B110)	JXRL010LY138
JK756		RCA JACK 2P MSP-282V-12 NILF(B11	JXRL020LY121
JK1202		RCA JACK MSP-281V41-B(B110)	JXRL010LY140
JK1401		S TYPE JACK MDC-050V-2.4 LF(B110	JXEL040LY003
JK1403		RCA JACK MSP-283V-B-752 NI LF	JXRL040LY122
RM2001		REMOTE RECEIVER PIC-37042LU	USESJRSKK033
T001⚠		SWITCHING TRANSFOMER BCK-28-0550	LTT00CPXB017
TP301		PCB JUMPER D0.6-P16.5	JW16.5T
TP302		PCB JUMPER D0.6-P16.0	JW16.0T
TP506		PCB JUMPER D0.6-P8.0	JW8.0T
TP507		PCB JUMPER D0.6-P7.0	JW7.0T
TP513		PCB JUMPER D0.6-P7.5	JW7.5T
TP751		PCB JUMPER D0.6-P23.5	JW23.5T
TP753		PCB JUMPER D0.6-P25.5	JW25.5T
TP754		PCB JUMPER D0.6-P22.5	JW22.5T
W002		FFC CABLE 26P FFC/P1.00/230	WX1H9600-002
W004		WIRE ASSEMBLY FFC 15 193 WHITE	WX1E8A00-004
VR501		CARBON P.O.T. VZ067TL1 B104 PB(F)	VRCB104HH014
X301		XTAL 3.579545MHz(20PPM)	FXC355LLN004
X502		XTAL DT38 32.768kHz	FX0323LDS001

DVD OPEN/CLOSE CBA

Ref. No.	Mark	Description	Part No.
		DVD OPEN/CLOSE CBA (MCV-C) Consists of the following:	----------
SWITCH			
SW2001		TACT SWITCH KSM0614B	SST0101HH013
MISCELLANEOUS			
W011		WIRE ASSEMBLY 02 130 GRAY	WX1E8A00-001

SENSOR CBA

Ref. No.	Mark	Description	Part No.
		SENSOR CBA Consists of the following:	1VSA13493
TRANSISTORS			
Q503		PHOTO TRANSISTOR PT204-6B-12	NPWZT2046B12
Q504		PHOTO TRANSISTOR PT204-6B-12	NPWZT2046B12

DV225SL8/DV220SL8
E8E00/01UD
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